EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI.

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In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

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EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI.

Approved by Dissertation committee on……

Professor in Nursing Research _____

Mrs.S.POONGUZHALI, M.Sc (N), M.A,M.B.A., Ph.D
Principal,
College of Nursing,
Madurai Medical College,
Madurai.

Professor in Clinical Speciality_____

Mrs.S.RAJAMANI, M.Sc (N), M.B.A., M.Sc (Psy), Ph.D
Lecturer,
H.O.D in Mental Health Nursing,
College of Nursing,
Department of Mental Health Nursing,
Madurai Medical College,
Madurai.

Medical Expert _____

Dr.T.KUMANAN,M.D.,DPM.,
Professor and H.O.D,
Department of Psychiatry,
Madurai Medical College,
Madurai.

A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY,

CHENNAI- 600 032.

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CERTIFICATE

This is to certify that this dissertation titled**, "EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** is a bonafide work done by **Mr.T.MAHESHKUMAR,** M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai - 20, submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in partial fulfillment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE IN NURSING, Branch V-Mental Health Nursing,** under our guidance and supervision during the academic period from 2013—2015.

Mrs.S.POONGUZHALI,M.Sc (N), M.A., M.B.A., Ph.D
PRINCIPAL,
COLLEGE OF NURSING,
MADURAI MEDICAL COLLEGE,
MADURAI-20.

CAPTAIN Dr.B.SANTHAKUMAR,M.Sc (F.Sc).,M.D(F.M). PGDMLE., Dip.N.B(F.M)
DEAN,
MADURAI MEDICAL COLLEGE,
MADURAI-20.

CERTIFICATE

This is to certify that the dissertation entitled "**EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** is a bonafide work done by **Mr.T.MAHESHKUMAR, M.Sc (N)** Student, College of Nursing, Madurai Medical College, Madurai- 20, in partial fulfillment of the University rules and regulations for award of the degree of **MASTER OF SCIENCE IN NURSING, Branch V-Mental Health Nursing** under my guidance and supervision during the academic year 2013-2015.

Name and signature of the guide_____

Mrs.S.RAJAMANI, M.Sc. (N)., M.B.A., M.Sc(Psy).,Ph.D

Lecturer,
H.O.D in Mental Health Nursing,
College of Nursing,
Madurai Medical College,
Madurai.

Name and signature of the Head of Department_____

Mrs.S.POONGUZHALI,M.Sc(N)., M.A., M.B.A., Ph.D

Principal,
College of Nursing,
Madurai Medical College,
Madurai.

Name and signature of the Dean _____

CAPTAIN Dr.B.SANTHAKUMAR,
M.Sc(F.Sc).,M.D(F.M).,PGDMLE.,Dip.N.B(F.M)

Dean,
Madurai Medical College,
Madurai.

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.

ABSTRACT

Title: Effectiveness of laughter therapy on depression among elderly residing in selected old age home at Madurai. **Objectives:** To assess the level of depression among elderly residing in selected old age home at Madurai, To assess the effectiveness of Laughter therapy on depression among elderly residing in selected old age home at Madurai, To associate the level of depression among elderly residing in selected old age home at Madurai with their selected socio demographic variables. **Hypotheses:** There is a significant difference between the level of depression among the elderly before and after Laughter therapy, There is a significant association between the level of depression among elderly residing in old age home and their selected socio demographic variables. Modified Imogene King's Goal Attainment Theory (1981) was adopted for this study. **Methodology**: A pre experimental one group pre test post test design was used. 40 elderly 60 and above 60 yrs of age were selected by purposive sampling method. The study was conducted in Sellur old age home at Madurai. Pre test was conducted by Geriatric depression scale on the first day after obtaining consent from all the subjects then Laughter therapy was given 20 minutes twice a day for 5 Consecutive days (total 10 sessions) for the subjects. Post test was assessed on 7^{th} day using the same tool. **Findings:** Laughter therapy reduced the depression level of the elderly in the old age homes. There was a significant association between post test level of depression and age (60-70 years), sex(male),and medical illness(No medical illness),history of taking medicines (Not taking medicines) among elderly in the old age home. **Conclusion:** The study concluded that Laughter therapy is cost effective, non invasive, non pharmacological complementary and alternative therapy to reduce the level of depression among elderly.

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CHAPTER I

INTRODUCTION

"Even the god love jokes"

- Plato

Aging is a natural process. It is an incurable disease which is considered as normal, inevitable biological phenomenon. Aging take place as account of influence of intrinsic factors and extrinsic factors, but the causes of aging still remain obscure.

Many of the changes have to be faced by people as they grow older such as retirement, death of friends and loved ones, increased isolation, or medical problem which can lead to depression. Depression is a common problem in advancing year, which cause enormous human suffering and interferes with normal day-to-day life.

Mental disorders in elderly persons vary widely, but a conservatively estimated 25% have significant psychiatric symptoms. In mental disorders, Depression is the major important disorder affecting majority of people. Major depressive disorder is a common disorder, with a lifetime prevalence of about 15%.

Geriatric psychiatry is concerned with preventing, diagnosing and treating psychological disorders in older adults. It is also concerned with promoting longevity; persons with a healthy mental adaptation to life are likely to live longer than those stressed with emotional problems.

Health care settings are not being met. While close to 6% of the older adult population resides in long term facilities, a very little active psychological treatments

are available in these settings. Up to 20% of older people live in residential or nursing homes towards the end of their lives. Entry into such institutions is often due to a combination of medical, social and psychological factors. The prevalence of depression in the population is high, though there is an extensive literature to suggest that depression is under diagnosed and under treated and that neither primary nor secondary care services are well coordinated to this common condition.

Depression is a combination of symptoms with interferes with one's ability. Major symptoms of depression are persistent sad ,anxious, feeling of guilt, worthlessness, helplessness, loss of interest, loss of appetite, irritability, difficulty in concentrating, forgetfulness, digestive disorder, chronic pain etc. Depression is not a normal or necessary part of aging, there are many steps to be taken to overcome the symptoms. Brain continues to change through out life, so there is no matter of age or challenges to make positive changes and experience the joy of golden years.

In this modern life caring and sharing relationship with elderly people is lacking in the family. The lack of two-way emotional dialogue and relationship leaves them without emotional grounding, often resulting in feelings of isolation and loneliness. In the modern days parents are not cared by the children, instead they are kept in old age homes which makes elderly still depressed and feel lonely.

The amount of time spent with elders is not what matters; it is the quality of interaction that is important. If there is lack of warmth and friendliness, it leads to anxiety and stress among the elderly. To facilitate better physical and mental health, emotional bonding is necessary. This provides a sense of emotional security which resists stress and depression – the number one sickness in elderly.

Emotional bonding is one of the most powerful tools against depression. Laughter binds people together and increase happiness and intimacy. In addition to the domino effect of joy and amusement, laughter also triggers healthy physical changes in the body. Laughter strengthens immune system, booster energy, diminish pain and protect from the damaging effect of stress.

A cheerful heart is good medicine, but a broken spirit saps a person's strength. Over the years, many physical benefits to laughter have been reported by doctors and health care professionals. patients are in need of the therapeutic effects of humor and laughter. The ability to see the humor in a situation and to laugh freely with others can be an effective way to take care of our own body, mind and spirit.

Role of the nurse in providing care to the community includes not only physical and physiological factors but also psychological and emotional factors. Nurses can play vital role in reducing depression by using complimentary therapies which help the patient to cope with stress and alleviate anxiety.

1.1. NEED FOR THE STUDY

In the modern times, the meaning of the word family has gone down to a small family containing just wife and children only. There is no place for parents, grandparents, uncles and aunties, brothers and sisters, cousins and nephews or nieces. Life is being so busy. Most of the people are feeling that they don't have enough time to spend with their family members. In this current situation, neglecting old people in the families is a quite common issue. Some good children (to say) are finding good old age homes for their parents if they are quite busy with their business or jobs. Some children are so busy enough that they are just leaving the parents to find the old age homes by themselves. An individual who worked hard all through his life for their

children and wife would be with a view that in future he can relax in their children's company. But he is forgetting the fact that his children are grown up and quite busy with their works and thinking him as a burden in their lives.

In 1950, the world population aged 60 years and above was 205 million (8.2 per cent of the population) which increased to 606 million (10 per cent of the population) in 2000. By 2050, the proportion of older persons 60 years and above is projected to rise to 21.1 per cent, which will be two billion in number. Asia has the largest number of world's elderly (53 per cent), followed by Europe (25 per cent). This pressure of increasing numbers of elderly will intensify in the next 50 years. In 2050, 82 per cent of the world's elderly will be in developing regions of Asia, Africa, and Latin America and the Caribbean while only 16 per cent of them will reside in the developed regions of Europe and North America. Population ageing is therefore rapidly emerging as the problem of developing countries. Ageing was not only an Asian trend up until 2000, but it is going to continue to dominate Asia in the next century as well (UNFPA, 1999).

Bagga (1997) in her study of all-female old age homes showed that younger entrants to the old age homes feel more depressed than their senior counterparts. Further she added that the residents felt more lonely and depressed in old age homes where they stayed as guests and did not prepare food themselves.

Various technique are used in reducing the depression such as music therapy, art therapy, yoga, meditation, guided imagery technique, light therapy and laugher therapy, reminiscence therapy, eco-therapy and hug therapy, touch therapy .

According to Bagchi (1998) the aged person should be as healthy as possible and reasonably meaningful conforming to the WHO slogan. “It is not sufficient to add years to life but it is more important to add life to years. In the light of this existing need, the health care climate demands nurses to determine the quality of life in the elderly and develop supportive care to assist them in attaining and maintaining maximum quality of life in addition to protecting them during the stress of aging. (Bagchi, 1998)

Government of India adopted ‘National Policy on Older Persons’ in January, 1999. The policy defines ‘senior citizen’ or ‘elderly’ as a person who is of age 60 years or above. (National policy on older persons) Aging of the population is the most significant emerging demographic phenomenon in the world today.

From 2004 onwards, October 1st has been celebrated as “WORLD ELDERS DAY”. So elderly citizens are in need of urgent attention. As per recent statistics in 2004 there are 1018 old age homes in India today. Out of these, 427 homes are free of cost while 153 old age homes are on pay and stay basis, 146 homes have both free as well as pay and stay facilities and detailed information is not available for 292 homes. A total of 371 old age homes all over the country are available for the sick and 118 homes are exclusive for women. Major reason for old age persons to join old age home is to meet basic needs (50%), negligence and rejection by family members (40%) based on the study conducted by the **Department of human development and family studies, Haryana, 2004.**

Nicholas leng (2005) A study was conducted to evaluate the efficacy of laughter therapy in reducing Depression in Depressive patients. The study, reports and claims regarding the use and efficacy of laughter are enumerated and evaluated with

the aim of trying to establish whether laughter has been used and there for could be used to treat Depression patients. Depression is a most common mental health problem, with higher prevalence rates in women and men. The study concluded that Depression seems to be among the most common conditions for which patients seeks alternatives like laughter therapy. Considering the above facts and review of literature, investigator felt laughter therapy will reduce the Depression among elderly.

Taqui A.M (2007) reported in their cross-sectional study the prevalence of depression was found to be 19.8%. Multiple logistic regression analysis revealed that the following were significant ($p<0.05$) independent predictors of depression: nuclear family system, female sex, being single or divorced/widowed, unemployment and having a low level of education. The elderly living in a nuclear family system were 4.3 times more likely to suffer from depression than those living in a joint family system (AOR=4.3 [95% CI=2.4-7.6]).

According to WHO (2008), In the prevalence of depressive disorders varies throughout the world. The lowest rates are reported in Asian and Southeast Asian countries. Percentages represent the lifetime chance that a person will experience a depressive episode that lasts a year or more. For example, Taiwan reports less than 2%, and Korea 3%. Western countries typically report higher rates, such as Canada 7%, New Zealand 11%, and France 16%. The United States has a rate of 6%. Also, countries plagued by protracted civil war, such as Bosnia and Northern Ireland, report higher rates of depression.

WHO (2009) conducted a worldwide study among selected countries to identify the existence of Depression with major disease conditions existing

worldwide. The survey findings revealed that depression associated with Elderly stood second with a prevalence rate of 16.25 surpassing depression associated with respiratory disease and metabolic disorders.

According to the National Institutes of Health (2010), of the 35 million people, age 65 or older, about 2 million suffer from full-blown depression. Another 5million suffer from less severe forms of the illness. The prevalence of depression is ranged between 13% and 22% among the elderly. In Tamil Nadu 80 lakh people had suffered from depression and belonged to above 60 years in that 72% were females remaining were males. (Madurai Institute of Social Science report 2010) In Madurai 1 lakh people were affected by depression, among them 80% were females and their age group were above 60 years. In urban area 62% of women were affected and belonged to age group 60 years.

In 2012 the World Mental Health Day theme was **Depression is a Global Crisis** Depression is the most common psychological problem among elderly (Chih-Ken Chen). In the general population, the prevalence of major depression is approximately 1.1%–15% for men and 1.8%–23% for women. However, the prevalence of major depression among elderly is approximately 20%–30%, and it may be as high as 47%. In worldwide 34% patients were suffering from depression among the clients who are on chronic illnesses. (British Journal of Clinical Psychology) In India depression is common among older people.

In 2013 the World Mental Health Day theme was **mental health and older adults.** Nowadays a lot of elderly people are in the old age homes due to their various problems. Old age is an unavoidable reality and is a community need. Aging occurs at different dimensions, such as social, behavioral, psychological morphological and

molecular. The elderly face several problems like physical health problems, financial problems. The identified problems in an elderly are feeling of neglect and loss of importance in the family and environmental problems. These problems further strengthen the feelings of loneliness, feelings of unwantedness, feeling of inadequacy, obsolescence of skill and education. Expertise on these aspects is somewhat interdependent and inductive in nature. Each one of these aspects may affect the quality and quantity of the problems in other categories.

The elderly are prized resources. We need to create a great awareness to safeguard the health and dignity of vulnerable section of society and help them live the rest of their lives with dignity. Elderly are the most rapidly growing segment of population. In India there are about 77 million elderly populations where as in Karnataka out of a population of 5.5 crores, 8 percent are elderly.

The old age population has increased dramatically in recent years. In 2014 Approximately 580 million senior citizens are living in the world; among them 335 million live in developing countries. As per 2011 census, India has a population of 120 cores. Out of this, the senior citizens constitute 90 million or 8%. Where as in tamilnadu the senior citizens population of Tamil Nadu was 4,67,6,481 In Madurai the total older population is 25, 78,201.Males 13, 03,363 Females 12, 74,838. 60 years and above 2, 57,477(8.5%) (Source census of India 2011).

According to the National Institutes of Health, of the 35 million people, age 65 or older, about 2 million suffer from full-blown depression. Another 5 million suffer from less severe forms of the illness. The prevalence of depression is ranged between 13% and 22% among the elderly. In Tamil Nadu 80 lakh people had suffered from depression and belonged to above 60 years in that 72% were females remaining were

males. (Madurai Institute of Social Science report 2010) In Madurai 1 lakh people were affected by depression, among them 80% were females and their age group were above 60 years. In urban area 62% of women were affected and belonged to age group 60 years.

There are 1200 old age homes in India in 2015. Out of these, 600 homes are free of cost while 153 old age homes are on pay and stay basis, 147 homes have both free as well as pay and stay facilities and detailed information is not available for 300 homes. A total of 371 old age homes all over the country are available for the sick and 118 homes are exclusive for women. Major reason for old age persons to join old age home is to meet basic needs (50%), negligence and rejection by family members (40%) based on the study conducted by the **Department of human development and family studies, Haryana, 2013.**

The World Health Organization has identified major depression as the fourth leading cause of world wide disease burden by 2020.

A study conducted on global estimation of the elderly population. It revealed that there are 30.2 percent of total population consists of elderly and this will increase to 72 percent by 2050. The study also reports that the elderly in Asia are also expected to increase from 1 million in 2003 to 7 million in 2050.

WHO reports that there are 236 elderly people per 10,000 suffer from mental illness mainly due aging, physical problems, socio-economic factor, cerebral pathology, emotional attitude and family structure. Depression occurs in approximately 10 to 15 percent of all community-dwelling elderly over 65 years of

age. The prevalence rate increases from 50 to 75 percent among institutionalized adults.

In old age, the need for economic, health and the emotional wellbeing assume special significance because of gradual reduction in abilities. At present, besides government run old age homes, several voluntary organizations for social welfare and religion groups are running old age homes and private organizations are also running old age homes.

Geriatric depression is a common mental disorder in the elderly population, but often often goes unrecognized and is inadequately treated. It may result in impaired physical mental and social functioning which places a heavy burden on society and individuals. Thus, it is important to recognize and treat geriatric depression properly.

Depression is the most common mental disorder among elderly in India and one of the most disabling conditions worldwide. Clinical symptoms of depression in elderly patients are difficult to differentiate from symptoms of normal aging. Elderly people in India are being traditionally honored and respected. Urbanization, migration and the break up the joint family system, generation gap causes altered position and status of the elderly people.

The alarming issue is not merely that of an increase in the grading population but that of the quality of life lived by them. The increase in age brings with many of likely hood health changes that may erode the quality of life of older adults (WHO, 2001).

The World Health Organization predicts that by 2020 depression will be the second leading cause of health impairment worldwide.

- Depression is a silent epidemic.
- Depression is currently the leading cause of non-fatal disability in world.
- Depression will be second only to heart disease as the leading medical cause of death and disability within 20years.
- On average, one in five people will experience depression at some point in their life.
- For young people 15-24 years old, suicide is the third leading cause of death.
- 80% of people that seek treatment for depression are treated successfully.
- More people die from suicide than from homicide.

The lives of institutionalized elderly tend to be laden with interpersonal losses, failing health, loss of social and economic resources etc. so they require some interventions to reduce level of depression. Various technique are used in reducing the depression such as music therapy, art therapy, yoga, meditation, guided imagery technique, light therapy and laugher therapy, reminiscence therapy, eco-therapy and hug therapy.

As life expectancy has increased, there is a need for us especially in India to think about the care of senior citizens. The joint family system has conspired to increase insecurity and loneliness among the geriatric population.

Relaxation is essential for healing and repairing the psychological and physiological consequence. Inadequate rest worsens stress, especially through impaired mental functioning. In addition to sleep and rest, people can practice techniques to facilitate physical and mental relaxation. In today's stress full world, we

need to laugh much more. The power of laughter is unrealized every time we laugh. Laughter is the over-the –counter medicine available 24hrs a day, to cure a variety of physical emotional ailments. Laughter is the human gift for coping and for survival.

A good Hearty Laughter gets rid of stress, worry and depression. It touches the emotional core and alleviates feelings besides being the panacea for good health; laughter generates positive thoughts and reduces the negative strains. Best of all this it's a priceless medicine.

1.2 STATEMENT OF THE PROBLEM

"A Study to assess the effectiveness of Laughter Therapy on depression among elderly residing in selected old age home at Madurai"

1.3 OBJECTIVES OF THE STUDY

1. To assess the level of depression among the elderly residing in old age home at Madurai.
2. To assess the effectiveness of laughter therapy on depression among elderly residing in Old age home at Madurai.
3. To associate the level of depression among elderly residing in old age home with their selected socio demographic variables.

1.4 HYPOTHESES

The study aims to test the following hypotheses. All hypotheses will be tested at 0.05 level of significance.

H1: There is a significant difference between the level of depression among the elderly before and after laughter therapy.

H2: There is a significant association between the level of depression among elderly residing in old age home and their selected socio demographic variables.

1.5. OPERATIONAL DEFINITIONS

Effectiveness

In this study it refers to the significant reduction in the level of depression among elderly as determined by the differences between pretest and post test depression scores as measured by geriatric depression scale.

Laughter therapy

It refers to use the natural physiological process of laughter exercises to help relive physical or emotional stress. It is administered by the means of laughter exercises such as Welcome laughter, Milky laughter, Hearty laughter and Lion laughter for 20 mts twice a day for 5 consecutive days.

Depression

It refers to a mood disturbances characterized by altered feelings, attitudes and beliefs which the elderly people experiences themselves and is measured by Geriatric Depression Scale (15 Points)

Elderly

In this study it refers to the senior citizens.i.e. men and women residing in old age home 60 and above years of age.

Old age home:

It is a residential place where the elderly people are allowed to stay for the rest of their life. In this study it refers to the shelter home, which is at Sellur, Madurai.

1.6. ASSUMPTION

- Elderly may have varying levels of depression and it may vary from individual to individual.
- Elderly those who are in the old age home may actively participate in the laughter therapy.

1.7. LIMITATION

- The setting of the study (selected old age home) is limited to the study.
- The sample size is limited to 40 subjects.
- The period of data collection is limited to 6 weeks.

1.8 PROJECTED OUT COME

1. The study helps to identify the level of depression among elderly residing at old age homes.
2. Laughter therapy reduces depression among elderly residents.
3. The findings of the study helps the health care professional and significant others to practice Laughter therapy in the clinical setting or in any areas.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

This chapter explains in detail about the review of literature and conceptual framework used for the study. A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work. Also, a literature review can be interpreted as a review of an abstract accomplishment.

Literature review serves a number of important functions in research process. It helps the researcher to generate ideas or to focus on a research approach, methodology, meaning tools and even type of statistical analysis that might be productive in pursuing the research problem. Review of literature in the study is organized under the following headings.

The literature was searched from extensive review from various sources and was depicted under the following headings.

1. **Literature related to depression among elderly.**
2. **Literature related to laughter therapy on depression**
3. **Literature related to laughter therapy on depression among elderly in old age home.**

2.1. LITERATURE RELATED TO DEPRESSION AMONG ELDERLY

Depression in later life frequently coexists with other medical illnesses and disabilities. In addition, advancing age is often accompanied by loss of key social support systems due to the death of a spouse or siblings, retirement, and/or relocation of residence. Because of their change in circumstances and the fact that they're expected to slow down, doctors and family may miss the diagnosis of depression in elderly people, delaying effective treatment. As a result, many seniors find themselves having to cope with symptoms that could otherwise be easily treated.

Depression tends to last longer in elderly adults. It also increases their risk of death. Studies of nursing home patients with physical illnesses have shown that the presence of depression substantially increased the likelihood of death from those illnesses. Depression also has been associated with increased risk of death following a heart attack. Depression in the elderly is more likely to lead to suicide. The risk of suicide is a serious concern among elderly patients with depression. The National Institute of Mental Health considers depression in people age 60 and older to be a major public health problem.

- Late-life depression affects about 6 million Americans age 60 and older, but only 10% receive treatment.
- Clinical depression can be triggered by long-term illnesses that are common in later life, such as diabetes, stroke, heart disease, cancer, chronic lung disease, Alzheimer's disease, Parkinson's disease, and arthritis.
- Older adults with depression are more likely to commit suicide than are younger people with depression. Individuals age 60 and older account for 19% of all deaths by suicide.

Mian-yoon chong (2013) conducted a descriptive study to study the prevalence of depressive disorders among community-dwelling elderly; further, to assess socio-demographic correlates and life events in relation to depression in Kaohsiung, Taiwan. A randomised sample of 1500 subjects aged 65 and over was selected from three communities. Research psychiatrists conducted all assessments by using the Geriatric Mental State Schedule. The diagnosis of depression was made with the GMS-AGECAT (Automated Geriatric Examination for Computerised Assisted Taxonomy); data on life events were collected with the Taiwanese version of the Life Events and Difficulties Schedule. One-month prevalence of psychiatric disorders was 37.7%, with 15.3% depressive neurosis and 5.9% major depression. The findings of the study showed that the prevalence of depressive disorders among the elderly in the community in Taiwan is high.

Barua A, Ghosh MK, Kar N, Basilo MA (2012) conducted a retrospective study to discover the frequency of depressive disorders among the older adults of the world population. The study was conducted in the continents of Asia, Europe, Australia, North America, and South America. Outcome of the study had shown the median prevalence rate of depressive disorders in the world among the older population was positive to be 10.3 [IQR= (4.7%-16.0%)]. The median occurrence rate of depression among the older adults, the Indian population was firm to be 21.9% [IQR=11.6%-31.1%)]. The study concluded that the depression level was significantly elevated among Indians in recent years than the rest of the world.

Uma Devi pongiya, S.Murugan and S.Subakanmani (2011) conducted a study to assess the degree of depression in Geriatric Population at Coimbatore. A total of 91 older adults subjects (46 males and 45 females) of the age group above 65 of

both sexes were selected for the study. The CES-D (Clinical Epidemiological Scale) and the ASI (Everyday Ability Scale for India) were administered to the older adult's subjects in order to analyze the depression. Out of 91 subjects 20 were depressed. The average CES-D score for non depressed older adult's person was found to be 12.5% Majority of the depressed older adults were married, uneducated, unemployed, and lived in a joint family and depended on their family members for financial needs. The study findings pointed to the urgency of improving detection and treatment of depression to reduce suicide risk among older adults.

Young –ME lee and Karyn Holm (2011) Conducted a study by using descriptive comparative design in Korean American Senior Center to determine the purposes of family relationships within the context of living arrangements and support network, and to assess the associations of factors to depression among older adults wrong Korean immigrants by using Center for Epidemiological Study-Depression Scale ((CES-D). 160 Korean older adults [(70% including 48 men (30%) and 112 women] participated in this study. The study concluded that twenty eight percent (N=45) lived with their adult children, and the remaining 72% (N=114) lived separately from their adult children. "t" – tests and ANOVA were used relationships (living arrangements and support networks). Korean older adults who lived with their adult children showed lower CES-D Scores then the group who lived independently (t=2.669),df=126,p=009)

A. Rashid (2011) conducted a cross sectional study to determine the prevalence of depression among the elderly Malays living in 24 villages of rural Malaysia. Geriatric Depression Scale was used to screen for depression among the participants. Results revealed that the prevalence of depression was 30.1%. Being

unmarried (OR 2.06), unemployed (OR 1.81), earning less than RM 600 (OR 2.16) and living alone (OR.2.32) were significantly associated with the risk of being depressed. Being unemployed (1.82) and earning less than RM 600 (OR 1.79) were significant predictive variables. The author suggested Employment opportunities which can provide reasonable income are important for the elderly.

Hannie C Comijs, **Harm W van Marwijk**, **Roos C van der Mast 2011)** conducted a multi-site naturalistic prospective cohort study to assess late-life depression and its unfavorable course and co morbidities of depressive disorders in older persons over a period of six years, and to compare these with those of depression earlier in adulthood in amsterdam, Netharland. 510 older persons (≥ 60 years) at 5 locations throughout the Netherlands were selected. Beck depression scale was used to assess the depression scale. The prevalence of major depression in older persons living in the community ranges from 1-5%. Rates of depressive disorders are substantially higher among specific populations of older persons, ranging from 5-10% in medical outpatients to 14-42% in residents of long-term care facilities. The prognosis of late-life depression is often poor. It appears to have a chronic course and higher relapse rates compared to early-life depression and co morbidity with cognitive decline and somatic diseases is higher than in depression in younger adults. In addition, in late-life depression co morbidity with other psychiatric disorders, especially anxiety disorders is high, and leads to longer time to remission as well as higher recurrence rates .

Jariwala Vishal Bansal RK, Patel Swati, Tamakuwala Bimal (2010) conducted Cross-sectional study among elderly belonging to different socioeconomic and varying demographic groups of Surat city. A total of 105 elderly people were

interviewed, comprising of 35 people each from the elderly living in the old age homes, those living in the affluent areas and those living in the slums of Surat city. The majority (80.8%) of the subjects were in the age range of 64–76 years. The mean age of the subjects was 69 ± 8.84 years. 43 (41%) were males and 62 (59%) were females and 36.5% females and 63.5% males were aged >70 years**.** The prevalence of depression was moderately high (39.04%) among the elderly in the study population and it was observed that several important socio-demographic variables had shown a significant association with depression in the elderly. Studies have revealed that the prevalence rates for depression in community samples of elderly in India vary from 6% to 50%14-15. The prevalence of depression in Caucasian elderly populations in the West vary from 1% to 42%16. We found that those aged who are severely depressed and who require an institutional treatment are more in old age homes (25.71%),followed by those living in the affluent areas (22.8%)and those living in the slums (11.4%).

Zheng Wu (2010) conducted a descriptive study to examine the relationship between age and depression among people aged 65 and older in Columbia, Canada. A randomised sample of 1000 subjects aged 65 and over was selected. GDS was used to assess the depression score. The majority (75.8%) of the subjects were in the age range of 65–76 years. The mean age of the subjects was 69 ± 8.84 years. 670 (67%) were males and 330(33%) were females and 28% females and 60% males were aged >70 years**.** The prevalence of depression was moderately high (52.04%) among the elderly in the study population. There was a significant relationship between age and major depression, after adjusting for selected covariates and it was observed that several important socio-demographic variables had shown a significant association with depression in the elderly.

Rahul Malhotra (2010) conducted a study on prevalence of clinically significant depressive symptom among older people in Srilanka. Totally 1181 older adult population was assessed with Geriatric depression scale. The prevalence rate was observed to be 27.8% for men 30.8% for women. The author quoted that certain subgroup of older adults. i.e. those with disabilities, functional limitation and low income older adults living alone were more likely to report depressive symptoms.

Subramani Poongothai (2009) conducted a study to determine the prevalence of depression in an urban south India population Gopalapuram, Chennai India. The researcher selected 26,001 subjects form Chennai Urban Rural Epidemiology Study (CURES), by systematic random sampling methods from 46 of the 155 corporation wards of Chennai city in South India 25,455 subjects participated in this study (response rate 97.9%) Depression was assessed using a self-reported and previously validated instrument, the Patient Health Questionnaire (PHQ)-12. The researcher concluded that the overall prevalence of depression was 15.1% and was higher in females (females 16.3% vs. male 13.9%, $p<0.001$). There was an increasing trend in the prevalence of depression with age among both female ($p<0.001$) and male subjects ($p<0.001$) and higher in the low income group (19.3%) compared to the higher income group (5.9%, $p<0.001$) and also higher among divorced (26.5%) and widowed (20%) compared to currently married subjects (15.4%, $p<0.001$).

Radha Krishnan (2006) assessed depression among geriatric out patients attending selected hospitals at Belgaum, Karnataka concluded that 63% of the geriatric out patients had mild to moderate depression and 17% of them had severe depression according to Geriatric depression scale 15 and there is significant association between the level of depression and loss of spouse.

Nguyen.H and Zimmerman (2006) conducted a study reveals the relationship between the age aspects and depression. Results indicate a reasonable degree of stability among adults under 70 years of age .However there were significant age- related increases in somatic symptoms and lack of well-being after approximately 70 years of age Where as symptoms related to depressed affect the interpersonal problems and remained stable. The addition of co morbid physical illness to the analysis did not reduce the association between age and depressive symptoms.

Wilson. K (2006) conducted a study reveals that a prevalence rate of 21 percent and an annual incidence of 12.8 percent (Geriatric depression score of five or more) were found Risk factors associated with prevalence depression include not living close to friends and family ,poor satisfaction with living accommodation and poor satisfaction with finances. Subsequent development of clinically significant depressive symptoms was associated with base line increased scores in depression.

Sherina M. S et. al., (2006) conducted a study reveals that the prevalence of depression among elderly in a tertiary care center in Wilayah Persekutan.The results showed that 54 percent of the elderly respondents were found to have depressive symptoms age, sex, ethnicity, functional disabilities in bathing, grooming, dressing, using the toilet, transferring from bed to chair and back, mobility and climbing chairs were all found to be significantly associated with depression among the elderly respondents.

Stark Stein S. E. (2005) stated that the construct of minor and major depression among seniors in long term residential care and found that 26% of the

patients had major depression ,26% percent had mild depression and 48% were not depressed.

Bradway (2001) conducted a quasi-experimental study to evaluate depression among 30 participants with moderate to severe depression. Participants were evenly divided into the humour therapy group to receive biweekly sessions for 3 weeks, or a standard treatment group. The humour therapy group had significantly less depression than did the standard group as measured with the Beck Depression Inventory, and 1 month later they continued to be less depressed than they were at the beginning of the study.

2.2 LITERATURE RELATED TO LAUGHTER THERAPY ON DEPRESSION.

Fonzi et al (2013) summarized data on the neurophysiology of laughter and the effect of laughter on the hypothalamus-pituitary-adrenal axis. They noted that laughter reduces the severity of depression. Laughter increases the connectivity of patients with people in their life, which further alleviates symptoms of depression.

Dr. Pattypits (2008) conducted studies that shows more than 70% of illnesses related to stress including high blood pressure, heart diseases, depression, anxiety and psychosomatic disorders. The treatment of mind related diseases is aided by the earliest form of meditation. Many studies have shown that stressful life situations generate changes, complexities and challenges to which if individual cannot respond adequately, illness can result. To get relief from stress, numbers of interventions were carried out. Among these laughter is considered as the best one as it needs no talent.

Dr.Narayan (2008) combined Laughter and Yoga with Cognitive Restructuring, with the patients suffering from Stress, Diabetes, Asthma, Depression and High Blood Pressure. The results showed a reduction in Stress levels, Depression, Diabetes and Blood Pressure among most of the participants.

Dr. Gita Suraj Narayan (2008) carried out a research study on the Bio psycho-social impact of laughter therapy on depressive patients. It reveals that a reduction in the Post-Stroke Depression, Enhanced Mobility and the ability to walk without walking aids. Therapy helped patients recover from Cognitive deficits resulting from Stroke including Perceptual Disorders, Speech Problems, and Problems with Attention and Memory and improved communication and relations between the patient and significant others.

Seaward BL, (2007) conducted an American Cancer society formally states that laughter therapy is the relief of physical and emotional difficulties especially depression It is used as a complementary tool to promote health, enhance immune system, reduce stress, increase pleasurable feelings, and stimulate blood circulation.

Hanni.B (2007) conducted to investigate the impact of laughter therapy on quality of life in patients with depression. He used 20 samples with late life depression they received laughter therapy once in two weeks for 60 minutes in addition to standard pharmaco therapy. The quality of life scores was improved both in laughter therapy and standard pharmacotherapy for depressive patients. Patients with depression showed improvement in mood, the level of depression was reduced.

Walter M et al (2007) conducted a study on Laughter therapy in patients with late-life depression or Alzheimer's disease. The result shows that Depressive

patients receiving Laughter Therapy showed the highest quality of life after treatment. In addition, patients with depression in both therapy groups showed improvements in mood, depression score, and instrumental activities of daily living.

Herbert Lefcourt (2006) conducted a study which explored the possibility that a sense of humour and its use can change our emotional response to depression. Here the subjects were asked to review the frequency and severity of stressful life changes occurred to them over the previous six months, and their recent negative mood disturbances were evaluated. He administered test to evaluate the use of humour and perception of humour. Result of this study showed that the ability to sense and appreciate humour can buffer the mood disturbances which occur in response to negative life events.

Wooten.P (2002) states that humor and laughter can be effective in reducing depression and stress, to find humor gives a sense of perspective on problem solving. Laughter provides a physical release for accumulated tension. He states that humor and laughter is effective to reduce depression level and stress level.

Taylor (2001) Using mixed methods of interventions for various disorders which was reviewed to evaluate the effect of providing Laughter therapy to 51 undergraduate students. Participants were randomly assigned to the experimental or control group. The experimental group received one laughter session with music weekly for 4 weeks, and the control group listened to music. Pre- and post test measures included Lazarus Coping Scale, Rosenberg's Self Esteem Scale, and Goldberg's General Health Questionnaire, along with a semi-structured interview. Humour therapy had no effect on the coping ability, self-esteem, and general health of 1st-year students, but significant effects were found for the 3rd-year students who

reported less transient stress (p=.05), less chronic stress (p=.05), The qualitative findings showed that all participants in the Humour therapy group found the experience positive and reported feeling relaxed, more open-minded, and better able to think; and they noticed positive changes in sleeping patterns and being in less hurry.

Kulper, (1997) conducted to investigate the effect of laughter on self esteem, perceived stress, depressive personality, dysfunctional attitudes and depression was examined on 100 college students. The researcher concluded that laughter apparently has a larger and more significant direct effect on long term depressive personality factors and also increased the self esteem.

2.3 LITERATURE RELATED TO EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY.

Ms Anuja Deshpande (2013) conducted a experimental design to study the effectiveness of laughter therapy in reducing depression in elderly in Mumbai city. The sample (n=80) consist of males and females above the age of 60 years from north Mumbai. The mean age of participants was ± 68.5, ranging between 62 to 75 years. Mean of the Pre test and Post test was 8.67 and 5.35 respectively. The Mean difference was 3.32. The paired "t" test value was 11.75.This showed that there was a significant difference between the pretest and post test level of depression. Hence it was evidenced that laughter therapy was more effective in reducing depression among the elderly.

Lee-Fay Low1, Henry Brodaty1(2013) conducted cluster randomized controlled trial study in old age homes of geographically defined areas in Sydney. All

elderly depression residents within geographically defined areas within each elderly home were invited to participate. Sites were stratified by size and level of care then assigned to group using a random number generator. Professional 'Elder Clowns' provided 9–12 weekly laughter therapy sessions, augmented by resident engagement by trained staff 'Laughter Bosses'. Controls did not received laughter therapy.Pre test and Post test Depression was measured by GDS. Seventeen elderly homes (189 residents) received the intervention and 18 elderly homes (209 residents) received usual care. The outcome of depression was significantly reduced in the intervention group compared with controls over 26 weeks (time by group interaction adjusted for covariates: p=0.011). The mean difference in change was 0.17 (95% CI 0.004 to 0.34, p=0.045). The results showed that laughter therapy was effective in decreasing depression among the elderly in old age home.

Mari Begonia (2013) conducted a quasi-experimental research to study the effectiveness of laughter therapy in decreasing the level of depression among institutionalized geriatric clients in golden acres home for the aged in quezon city, Manila. Ten participants were purposely selected and pre test was conducted. Laughter yoga therapy was conducted for 30 minutes a day, 5 days a week for 3 weeks for a total of 15 sessions. Post-test was done at the end of each week. Majority (70%) of the participants were moderately depressed before laughter therapy was implemented. At the end of 15 sessions of laughter therapy, results (p = 0.016) show a significant difference in the level of depression of institutionalized geriatric clients before and after implementation. The findings of the study show that Laughter therapy is an effective intervention in decreasing the level of depression of the institutionalized geriatric participants. Laughter therapy can be considered as a good group therapy because it involves interpersonal communication and can be used in other geriatric

institutions to promote good relationship among other geriatric clients and caretakers of the institution.

Eunok (2013) conducted a quasi experimental study to investigate the effects of laughter therapy on depression in the elderly at Tailored old age home, Jeju, Korea. A quasi-experimental nonequivalent control group pretest-posttest design was used for this study. The participants were 87 elderly. Data were collected from September to November 2010. The experimental group received laughter therapy from a visiting nurse who had taken laughter training provided by laughter therapy experts. The experimental group received 10~15 min of laughter therapy twice a day for 6 weeks. The instruments included Geriatric Depression Scale to measure depression before and after the laughter therapy. The study result showed that the mean post-test depression scores (13.97) was apparently lower than the mean pre-test depression score (18.97). There was a significant difference between pre-test depression score and the post-test depression scores ($t= 33.696$, $p < 0.05$.The results showed that visiting laughter therapy was effective in decreasing depression among the elderly in old age home.

Sunitha Sharma (2013) conducted a one group pre and post test quasi-experimental research study in Urban old-age home of Chandigarh to assess the effects of laughter therapy on depression among elderly in the old age home. 33 elderly were selected .Sub-groups were formed using convenient sampling for the intervention. "Laughter therapy" was conducted in 3 sub-groups as 11 elderly for twice a day for 7 consecutive days. Geriatric Depression Scale (GDS) was used to assess and compare pre and post intervention depression scores. Thirty one subjects completed the study and a statistically significant difference ($p=0.000$) was found between the pre–post intervention depression scores.Pre test mean was 13.4 and the

post test mean was 9.5. Results showed that Laughter Therapy has significant effect on depression among elderly at p less than 0.05 level of significance.

Ko and Youn (2013) studied 48 geriatric depressed patients and 61 age-matched controls, they found a significantly lower Geriatric Depression Scale score and a better Pittsburgh Sleep Quality Index score in patients who had been exposed to four weekly laughter groups, compared with persons who had been exposed to a control group. Before laughter therapy, the GDS scores were 7.78 ± 3.58 and 8.09 ± 3.86; the PSQI scores were 6.76 ± 3.20 and 7.38 ± 3.70 in laughter therapy group and control groups, respectively. After laughter therapy, the GDS scores were 6.74 ± 3.09 (P=0.027) and 8.33 ± 3.34 (P=0.422). The findings of the study shows that laughter therapy has positive effects on depression among elderly residing at old age home.

Shahidi et al (2013) randomly assigned 60 community-dwelling female, geriatric, depressed patients to a laughter therapy group, an exercise group, and a control group. Laughter therapy and exercise were equally effective, and both were significantly superior to the control condition. The laughter yoga group scored significantly better than the other two groups on the Life Satisfaction Scale. The researchers concluded that, in addition to improved mood, patients who laugh experience increased life satisfaction. In this study the pre test mean score of laughter group was 10 and post test mean score of laughter group was 7. ($t= 37.696$, $p < 0.05$).There was a significant difference in the mean score and S.D before and after laughter therapy. The findings show that the Laughter therapy is easily-accessible intervention that has positive effects on depression,

Audrey L. Shaw, PA-S (2012) conducted two randomized controlled trials and one pilot study comparing the effect of laughter therapy on depression were found using Pub Med, Medline, OVID, and Cochrane databases. Laughter therapy was shown to be beneficial as both an independent and adjunctive intervention for depressed elderly patients after several treatment sessions. Laughter therapy yielded fewer depressive symptoms and increased life satisfaction among patients. These results are similar to past studies that have shown a correlation between a sense of humor and decreased depressive features. The pre test mean score of depression of laughter group and control group were 7.98 and 8.08 respectively. The post test mean score of depression of laughter group and control group were 6.94 and 8.43 respectively. The p value of the laughter therapy and control group was 0.027 and 0.422 respectively. This showed that laughter therapy is effective in reducing depression among elderly residing in old age home.

George Jaya Rani (2012) conducted a Quantiative study in Kummarappa old age home at Mangalore to evaluate the effectiveness of laughter therapy in elderly residing in old age home. Purposive sampling technique was used for selecting the study subjects. The sample comprised of 60 samples above the age of 65 years. The tool used for the study were demographic proforma and modified Geriatric Depression Scale. The study result showed that the mean post-test depression scores (11.97) was apparently lower than the mean pre-test depression score (16.97). The pre-test depression score rocked to 43.3% for the moderate level of depression while the post-test depression score reached an all-time high of 63.3% for the mild level of depression. There was a significant difference between pre-test depression score and the post-test depression scores ($t= 37.696$, $p < 0.05$).The pre-test depression score was independent of all the demographic variables such as age, gender, religion, marital

status, years of stay in old age home, any illness. The findings of the study show that the intervention programme was effective in reducing the depression among elderly people in old age home.

Ko HJ, Youn CH.(2011) conducted a randomized control study between July and September 2007, the total study sample consisted of 109 subjects aged over 65 divided into two groups; 48 subjects in the laughter therapy group and 61 subjects in the control group. The subjects in the laughter therapy group underwent laughter therapy four times over 1 month. They compared Geriatric Depression Scale (GDS), Mini-Mental State Examination (MMSE), Short-Form Health Survey-36 (SF-36), Insomnia Severity Index (ISI) and Pittsburgh Sleep Quality Index (PSQI) between the two groups before and after laughter therapy. From his study the author concluded that Laughter therapy has positive effects on depression, insomnia, and sleep quality in the elderly. There were no significant differences in baseline characteristics between the two groups. Before laughter therapy, the GDS scores were 7.98 ± 3.58 and 8.08 ± 3.96; the MMSE scores were 23.81 ± 3.90 and 22.74 ± 4.00; total scores of SF-36 were 54.77 ± 17.63 and 52.54 ± 21.31; the ISI scores were 8.00 ± 6.29 and 8.36 ± 6.38; the PSQI scores were 6.98 ± 3.41 and 7.38 ± 3.70 in laughter therapy group and control groups, respectively. After laughter therapy, the GDS scores were 6.94 ± 3.19 (P=0.027) and 8.43 ± 3.44 (P=0.422); the MMSE scores were 24.63 ± 3.53 (P=0.168) and 23.70 ± 3.85 (P=0.068); total scores of SF-36 were 52.24 ± 17.63 (P=0.347) and 50.32 ± 19.66 (P=0.392); the ISI scores were 7.58 ± 5.38 (P=0.327) and 9.31 ± 6.35 (P=0.019); the PSQI scores were 6.04 ± 2.35 (P=0.019) and 7.30 ± 3.74 (P=0.847) in both groups, respectively. The findings show that the Laughter therapy is considered to be useful, cost-effective and easily-accessible intervention that has positive effects on depression, insomnia, and sleep quality in the elderly.

Melissa Kate Weinberg, Thomas G. Hammond, Robert A. Cummins (2010) conducted *a* quasi experimental study to evaluate the effect of Laughter therapy on elderly residing at old age home at Melbourne, Australia. Forty elderly people suffering from depression (72.7% female, Mean age = 58.86, SD = 14.12) were selected. Laughter therapy was given for 10 members as 4 groups. For Each group Laughter therapy was given for 15-20 mts for 10 consecutive days. GDC Scale was used. This study shows that there is significant difference between the mean score of pre test and post test (mean of pre test 10 and mean of post test is 7 and t= 10.71, $p < 0.05$). The results showed that laughter therapy was effective in decreasing depression among the elderly in old age home.

Hirsch RD and et al (2010) conducted a study on Humor therapy in the depressed elderly. It shows significant improvements only in the experimental group for resilience and satisfaction with life ($p<0.05$). Analyses of the subgroups with at least medium to severe depression showed further significant effects for cheerfulness, seriousness, bad mood, and satisfaction with life ($p<0.05$). These severely affected patients seemed to profit best from humor therapy. The results indicate the efficacy of this specific therapeutic intervention for older depressed patients.

Mojtahed A, Modabbernia A (2009) conducted a randomized controlled trial study in older adults of a cultural community old age home of Tehran, Iran. To compare the effectiveness of Laughter therapy and group exercise therapy in decreasing depression. Seventy depressed elderly who were residing of a cultural community old age home of Tehran were chosen by Geriatric depression scale (score>10). After completion of Life Satisfaction Scale pre-test and demographic questionnaire, subjects were randomized into three groups of laughter therapy,

exercise therapy, and control. Subsequently, depression pre-test and post-test were done for all three groups by using GDS. The data were analyzed using analysis of covariance and Bonferroni's correction. Sixty subjects completed the study. The analysis revealed a significant difference in decrease in depression scores of both Laughter therapy and exercise therapy group in comparison to control group ($p<0.001$ and $p<0.01$, respectively). There was also significant difference between Laughter therapy and exercise therapy groups. The increase in life satisfaction of Laughter therapy group showed a significant difference in comparison with control group ($p<0.001$). Significant difference was found between exerci*se* therapy and Laughter therapy group. *The* findings showed that Laughter therapy is more effective than group exercise program in improvement of depression of elderly residing in old age home.

Manag.J. (2008) states that over the past 30 years, there has been a plentitude of research into the health benefits of humor and laughter for healthy sick or depressed senior citizens. He states medical research supports our human instinct that people who smile and laugh are happy. Whereas those who are inexpressive are usually not happy. Research shows that humour stimulates results in increase serotonin which elicits a primarily emotional response with physiological effects. The many physiological benefits of laughter in elderly have been clearly demonstrated.

2.4. CONCEPTUAL FRAMEWORK

The investigator adopted Modified Imogene King's Goal Attainment Theory (1981) based on the personal & interpersonal systems including interaction, perception, judgment, Communication and transaction. The investigator adopted goal attainment as a basic theory for conceptual framework, which is aimed at

effectiveness of Laughter therapy on level of depression. This involves interaction between the researcher and the elderly residents.

Six major concepts describe these phenomena:

Perception

It refers to people's representation of reality. Here the elderly perceived the need of Laughter therapy to reduce the level of depression.

Judgment

Judgment is decision which is made. Here the researcher decides to provide Laughter therapy to reduce the level of depression and elderly residing decided to participate in the research study.

Action

This refers to the changes that have to be achieved. The researcher action is to provide Laughter therapy to reduce the level of depression and elderly residing decided to receive the Laughter therapy.

Reaction

Reaction helps in setting a mutual goal. In this study the researcher and elderly residents set a mutual goal. Here the mutual goal is reduction in level of depression.

Interaction

If refers to the verbal and non verbal communication between one individual or between two or more individual who involve goal directed perception. Here the researcher encourages the elderly residing in the selected old age home to receive the Laughter therapy to reduce the level of depression.

Transaction

This is the achievement of a goal. Here the researchers goal is achievement of the reduction in level of depression and evaluate the effectiveness of Laughter therapy by using structured interview schedule.

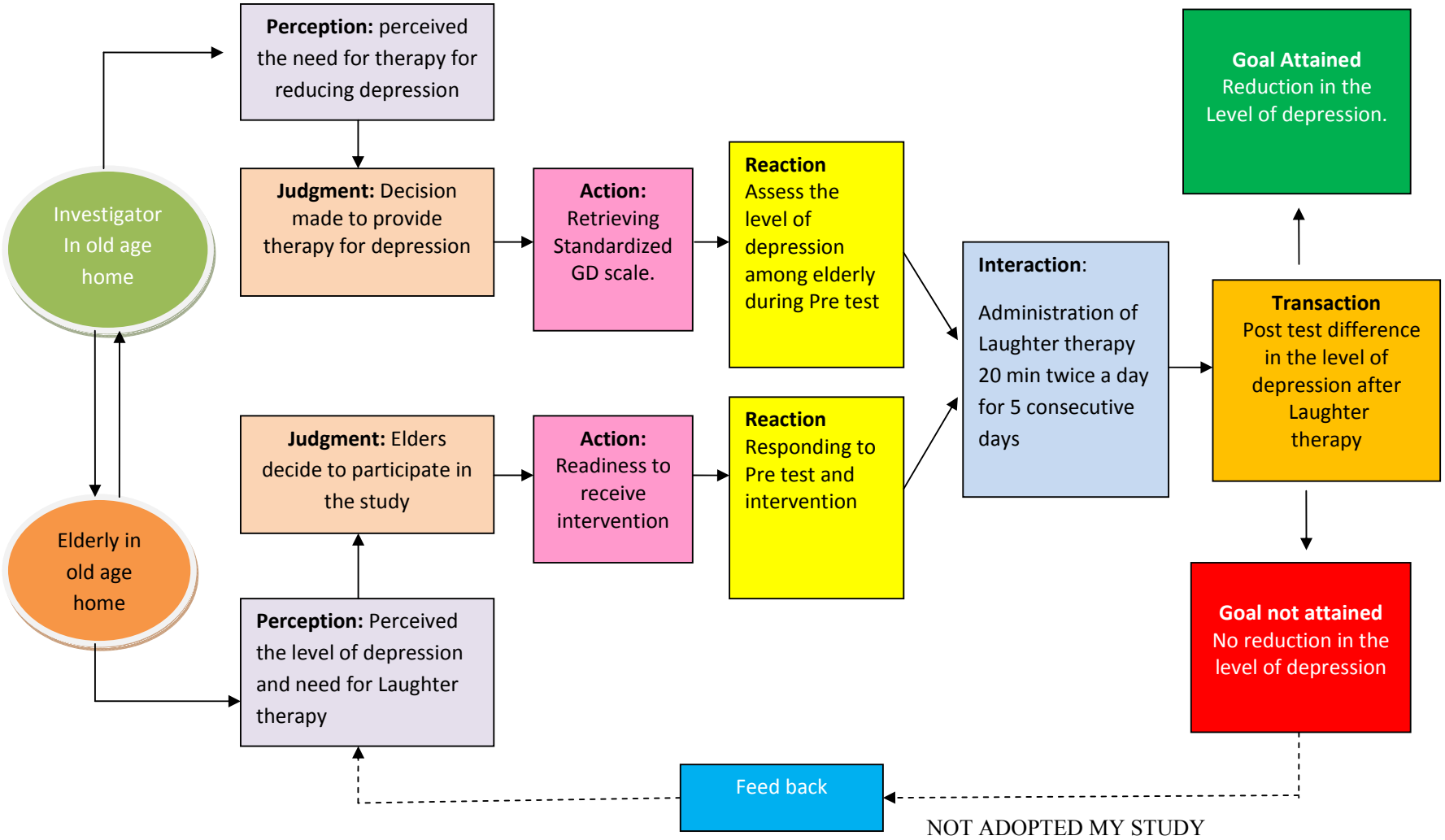

FIG.1. Theoretical Frame Work Based on modified King's Goal Attainment Theory

Methodology

CHAPTER - III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research design, and variables, setting of the study, population, sample and sample size, sampling technique, description of the tool, pilot study, data collection procedure and plan for data analysis.

The present study is aimed to assess the Effectiveness of Laughter therapy on depression among elderly residing in selected old age home at Madurai.

3.1. RESEARCH APPROACH

The research approach is the most essential part of any research. The entire study is based on it. In this study Effectiveness of Laughter therapy on depression among the elderly was assessed. Therefore a quantitative/evaluative approach was used to test the effectiveness of intervention.

3.2. RESEARCH DESIGN

The investigator used Pre experimental design (one group pretest post test) for this study. There was a manipulation for the subjects without a control group and randomization.

Pre test	Intervention	Post test
O_1	X	O_2

O_1- Pre test level of depression among elderly.

X – Laughter therapy (20 min twice a day for 5 consecutive days)

O_2- Post test level of depression among elderly.

3.3. RESEARCH VARIABLES

Independent variable

Laughter therapy.

Dependent variable

Level of depression among elderly.

3.4 SETTING OF THE STUDY

The study was conducted in old age home, Sellur at Madurai. It is governed by Govt concern. Accommodation capacity of the old age home is seventy. Currently there were sixty inmates. (Among them 37 are Females and 23 are males).The home has shared accommodation for inmates with all facilities.

The inmates actively participate in cooking, dining and gardening activities. It provides medical facilities by in connection with primary health centre, sellur and it also has provision for recreation like watching TV. They have place for religious activities like prayer, and for meeting and family sessions. The home is situated 3 kilometers away from college of nursing, Madurai Medical College, Madurai.

3.5 POPULATION

Target population: Target population of the study was elderly residing at old age home.

Accessible population: The elderly residing in old age home, sellur were the accessible population for the study.

3.6 SAMPLE

Sample were elderly people residing in a selected old age home, Sellur at Madurai, and those who fulfilled the inclusion criteria.

3.7 SAMPLE SIZE

The sample size was 40.

3.8 SAMPLING TECHNIQUE

Sampling Technique used in the study was Non Probability (Purposive) sampling technique. 40 elderly individuals were included in the study who fulfilled the sampling criteria.

3.9 SAMPLING CRITERIA

The study sample was selected by the following inclusion and exclusion criteria.

INCLUSION CRITERIA

- Elderly those who were 60 and above years of age.
- Elderly people who available at the time of data collection.
- The individuals those who understand and speak Tamil.
- Irrespective of sex of the residents.

EXCLUSION CRITERIA

- Elderly who were terminally ill.
- Elderly who had history of mental illness and taking medications
- Elderly who were previously exposed to Laughter therapy.
- Individuals those who were not willing to participate.

3.10 DESCRIPTION OF THE TOOL AND TECHNIQUE

The tool used for the study was **Geriatric Depression Scale.**

The Technique used for the study was structured interview method.

The Tool consists of two sections.

SECTION – I (SOCIO DEMOGRAPHIC VARIABLE): This section includes baseline variable items such as age of the elderly, gender, religion, education, previous employment status, source of income, marital status, number of children, type of family, employment of children, mode of entry in old age home, duration of stay, relatives visiting time to old age home, suffering with chronic illness and history of taking medicines.

SECTION – II

Geriatrics depression Scale which consists of 15 items.

3.11 DESCRIPTION OF THE INSTRUMENT

Section-I: There is no score allotted for baseline variables.

Section-II: Geriatrics depression Scale (15 points)

The investigator collected the data by interview method. It was YES or NO question type. The items were assessed by the tool scores, which was given based on the nature of questions that is in positive manner for positive type questions and in reverse manner for the negative aspect questions. The tool consisted 15 items, among which 10 items which indicate when answered Yes, and 5items which indicate depression when answered no. A total Score was provided which consists of one point from each depressive answers. Non depressive answers were scored as zero and do not add to total score.

Total Score	Levels of Depression
0-4	Normal
5-8	Mild depression
9-11	Moderate depression
12-15	Severe depression

3.12 RELIABILITY OF THE TOOL

The reliability of an instrument is the degree of consistency with which it measures the attribute and it is supposed to be measuring over a period of time. The Tool was a standardized one. Test re test method was used to assess the internal consistency which reached satisfactory reliability score of $\alpha = 0.85$. Hence the tool was reliable and was used in this study.

VALIDITY OF THE TOOL

The tool was validated by 5 experts from the field of Psychiatric nursing, psychiatrist and clinical psychologist. The experts were requested to check the relevance, sequence and adequacy of the items in the interview schedule.

3.13 PILOT STUDY

A pilot study was conducted to at inba illam old age among 10 elderly (who were not included in the main Study) who will fulfill the inclusion criteria with regard to the setting, with the cooperation of the people and the availability of the sample, in a manner in which a final study would be done. It was carried over for the period of 7 days from 1.08.2014 to 7.08.2014. The findings of the pilot study revealed that the study was feasible and practicable. The structured interview schedule was found to be appropriate for the study. Data were analyzed to find out the practicability to conduct the study. The pilot study findings revealed that the study was feasible and practicable.

3.14. DATA COLLECTION PROCDURE

A prior formal written permission was obtained from the college and the authorities of selected old age home where the study was conducted. The study sample was selected by using Non Probability (purposive sampling) technique among them who fulfilled the sampling (inclusion and exclusion) criteria a total of 40 elderly were recruited in the study. Before conducting the study, a brief self introduction and explanation regarding the nature and purpose of the intervention was given. Written and oral consent was obtained from the subjects. Geriatric depression scale was used to assess the level of depression among elderly by interview method before the intervention.

The pre test was conducted on the first day after obtaining consent from the participants. Based on the sample selection criteria, the second day onwards the therapy was given among the participants having depression as measured by the scores on depression scale. Therapy was provided through individual sessions lasting 20 min. The therapy was continued for two sessions per day for 5 consecutive days. The seventh day post test was conducted by using the same Tool. The data was collected for duration of 6 weeks from 12.8.14 to 15.9.14.

3.15. PLAN FOR DATA ANALYSIS

The data collected was analyzed by means of descriptive statistics, and inferential statistics.

DESCRIPTIVE STATISTICS

1. **Analysis of the baseline data** was done by using frequency and percentage.
2. **Depression** among elderly was analyzed by computing frequency, percentage, mean and standard deviation.

INFERENTIAL STATISTICS

1. **Paired "t" test** was used to find out the effectiveness of laughter therapy on Depression among elderly.
2. **Chi-square analysis** was used to determine the association between the level of depression and selected socio demographic variables among elderly.

3.16. PROTECTION OF HUMAN RIGHTS

The investigator obtained approval from Ethical committee of College of Nursing, The Ethical IRB committee of Government Rajaji hospital and from the City health officer, Madurai Corporation. Both verbal and written consent was obtained from all the participants. Confidentiality and Anonymity was maintained throughout the study.

Figure: 2.Schematic representation of Research Methodology

Data Analysis And Interpretation

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of sample, analysis, and interpretation of the data collected to evaluate the achievement of the objectives of the study. The data collected is tabulated and described as follows, In this chapter the data collected were edited, tabulated, analyzed and interpreted. The findings were organized and presented in the following orderly sections.

THE DATA COLLECTED WERE INTERPRETED UNDER THE FOLLOWING SECTIONS

SECTION I

Distribution of elderly according to the socio demographic variables

SECTION II

Distribution of elderly according to the level of depression

SECTION III

Effectiveness of laughter therapy on depression among the elderly

SECTION IV

Association between the post test level of depression among elderly with selected socio demographic variables.

SECTION I

Table 1: DISTRIBUTION OF ELDERLY ACCORDING TO THE SOCIO DEMOGRAPHIC VARIABLES

n=40

SOCIO DEMOGRAPHIC VARIABLE		f	%
AGE	a)60- 70 years	30	75%
	b)Above 70 years	10	25%
SEX	a) Male	25	62.5%
	b) Female	15	37.5%
RELIGION	a) Hindu	27	67.5%
	b) Christian	7	17.5%
	c) Muslim	6	15%
	d) Others	0	0%
EDUCATION	a) No formal education	0	0%
	b) Primary education	9	22.5%
	c) Middle	18	45.0%
	d) High school	8	20.0%
	e) Higher secondary	3	7.5%
	f) Degree	2	5%
PREVIOUS OCCUPATION	a) Govt Job	4	10%
	b) Private job	8	20%
	c) Business	6	15%
	d) Cooly	17	42.5%
	e) Unemployed	5	12.5%
SOURCE OF INCOME	a) Pension after retirement	5	12.5%
	b) Old age pension	14	35%
	c) Dependent on old age home	15	37.5%
	d) Savings	4	10%
	f) Support from children	2	5%

SOCIO DEMOGRAPHIC VARIABLE		f	%
MARITAL STATUS	a) Single	0	0%
	b) Married	34	85.0%
	c) Widow/Widower	6	15%
	d) Divorced	0	0%
	e) Separated	0	0%
NUMBER OF CHILDREN	a) No child	0	0%
	b) One child	13	32.5%
	c) Two children	22	55%
	d) Three and above	5	12.5%
TYPE OF FAMILY	a) Joint family	24	60%
	b) Nuclear family	16	40%
	c) Extended family	0	0%
OCCUPATION OF CHILDREN	a) Working in abroad	3	7.5%
	b) Working in local area.	21	52.5%
	c) Working in other districts	12	30%
	d) Working in other states	4	10%
MODE OF ENTRY IN OLD AGE HOME	a) Voluntarily	13	32.5%
	b) Family members	24	60%
	c) Friends	3	7.5%
	d) Others	0	0%
DURATION OF STAY	a) Less than one year	3	7.5%
	b) 1- 2 years	26	65.0%
	c) More than 2 years	11	27.5%

SOCIO DEMOGRAPHIC VARIABLE		f	%
RELATIVES VISIT TIME TO OLD AGE HOME	a) Weekly once	2	5%
	b) Monthly once	11	27.5%
	c) Three months once	19	47.5%
	d) Six months once	8	20%
	e) More than six months	0	0%
MEDICAL ILLNESS	a)Diabetes	8	20%
	b)Hypertension	6	15%%
	c)Others	0	0%
	d)No	26	65%
HISTORY OF TAKING MEDICINES	a) Yes	14	35%
	b) No	26	65%

The above table portrays that majority of the elderly 30 [75%] were in the age group of 60-70 years, 10[25%] were in the age group of above 70 years,

While comparing the sex, majority of the elderly 25[62.5%] were male and 15 [37.5%] were females.

Regarding religion, most of the elderly 27[67.5%] were Hindus and 7[17.5%] were Christians and remaining 6(15%) were Muslims.

While comparing the Educational status 18[45%] have studied up to middle level (i.e.) 8th standard, 9[22.5%] have studied up to primary level (i.e.) 5th standard, 8(20%) have studied up to high school, 3 [7.5%] have studied up to Higher secondary school level (i.e.) 12th standard,2[5%] were degree, none of them had no formal education.

While discussing the previous occupational status majority of the elderly 17[42.5%] were cooly, 8[20%] were private employers, 6(15.0%) were business group, 5(12.5%) were unemployed, 4(10.0%) were govt employers.

While comparing the source of income, majority 15[37.5%] were old age home dependents, 14[35%] were old age pensioners and 5[12.5%] were retired pensioners, 4(10%) were savings dependents, 2(5 %.) were depenents upon their children.

Regarding the marital status majority of the elderly 34[85%] were married and the 6[15%] were widow / widower.

While comparing the number of children majority of the elderly 22[55%] had 2 children, 13[32.5%] had 1child, and 5[12.5%] had three and above children.

While discussing the type of family, majority of the elderly 24(60%) were hailed from joint family and remaining 16(40%) were hailed from nuclear family.

Regarding the occupation of children, majority of the elderly people's children 21(52.5%) were working in the local area, 12(30%) were working in other districts, 4(10.0%) were working in other states, 3(7.5%) were working in abroad.

While comparing the mode of entry to old age home, 24[60.0%] were by family members, 13(32.5%) were by voluntary, 3(5%) were by friends.

Regarding duration of stay in the old age home 26[65%] were residing for a period from 1 -2 yrs, 11[27.5%] were residing for more than 2 yrs. 3[7.5%] were residing for less than one year.

While discussing the relatives visit time to old age home, the majority of elder's relatives 19(47.5%) visited to old age home in three months once,11(27.5%) visited to old age home in monthly once,8(20.0%) visited to old age home in six months once,2(5%) visited to old age home in weekly once.

Regarding presence of medical illness 26[65%] did not have any illness and the remaining 8[20%] of them were diabetic patients and remaining 6(15.0%) were hypertensive patients.

While comparing history of taking continuous medications 26[65%] did not take any medications and the remaining 14[35%] of them were taking medications.

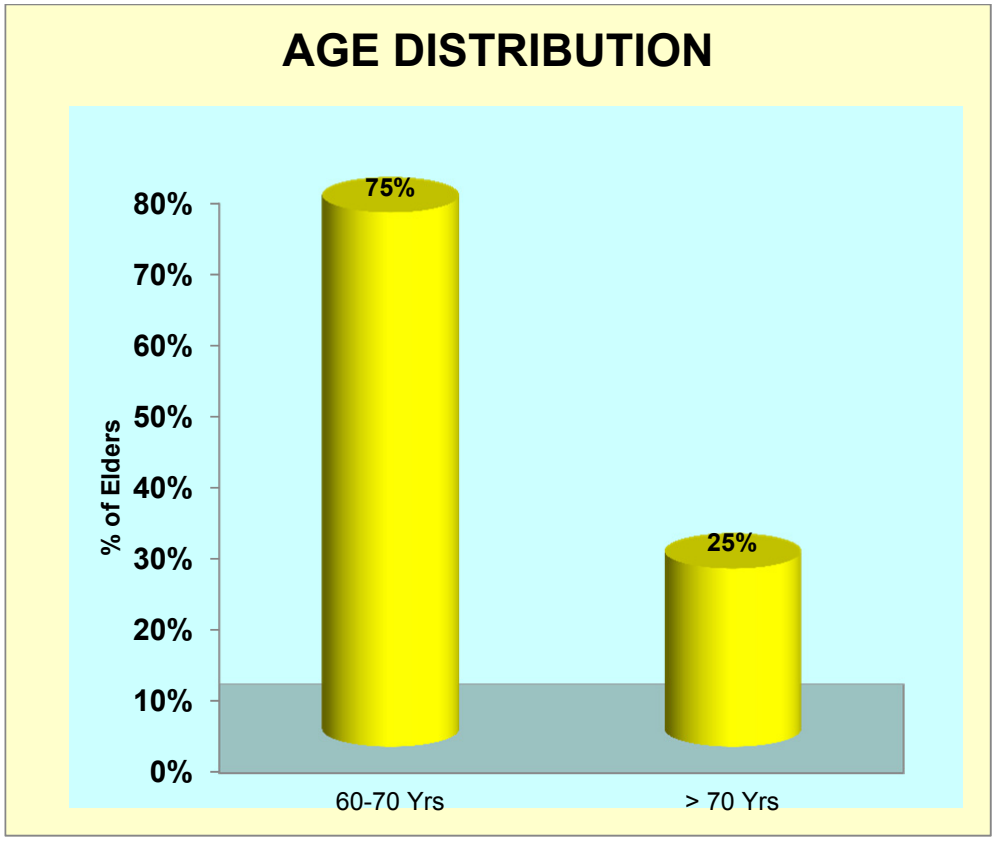

FIGURE: 3. Simple Cylinder diagram depicts distribution of elderly in selected old age home according to their age.

The above diagram depicts majority of the elderly 30 [75%] were in the age group of 60-70 years, 10[25%] were in the age group of above 70 years.

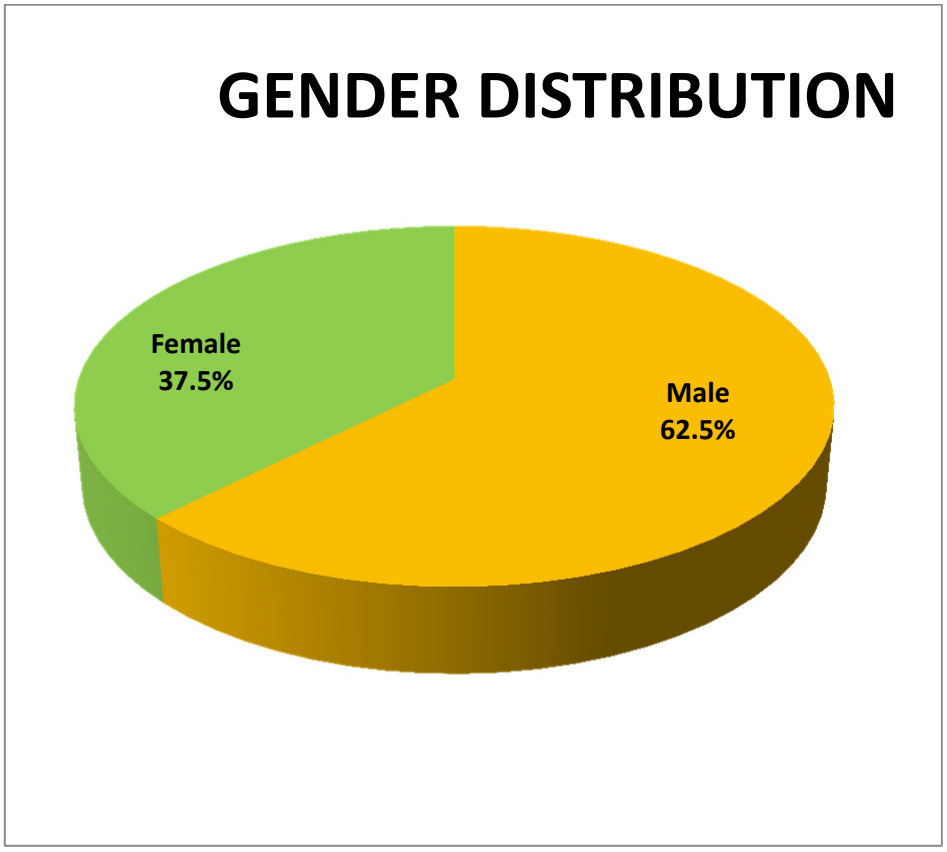

FIGURE: 4. Pie diagram portrays distribution of elderly in selected old age home according to their sex.

The above diagram portrays that the majority of the elderly 25[62.5%] were male and 15[37.5%] were females.

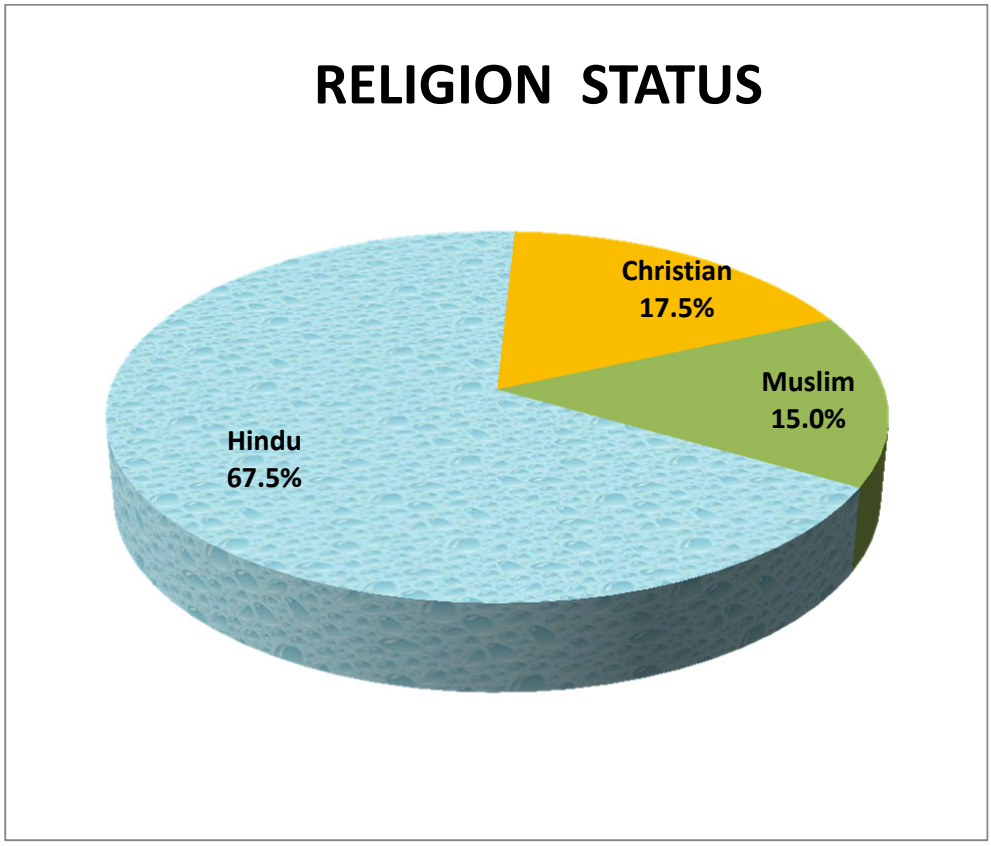

FIGURE: 5. Pie diagram identifies distribution of elderly in selected old age home according to their religion.

The above diagram identifies that the most of the elderly 27[67.5%] were Hindus and 7[17.5%] were Christians and remaining 6(15%) were Muslims.

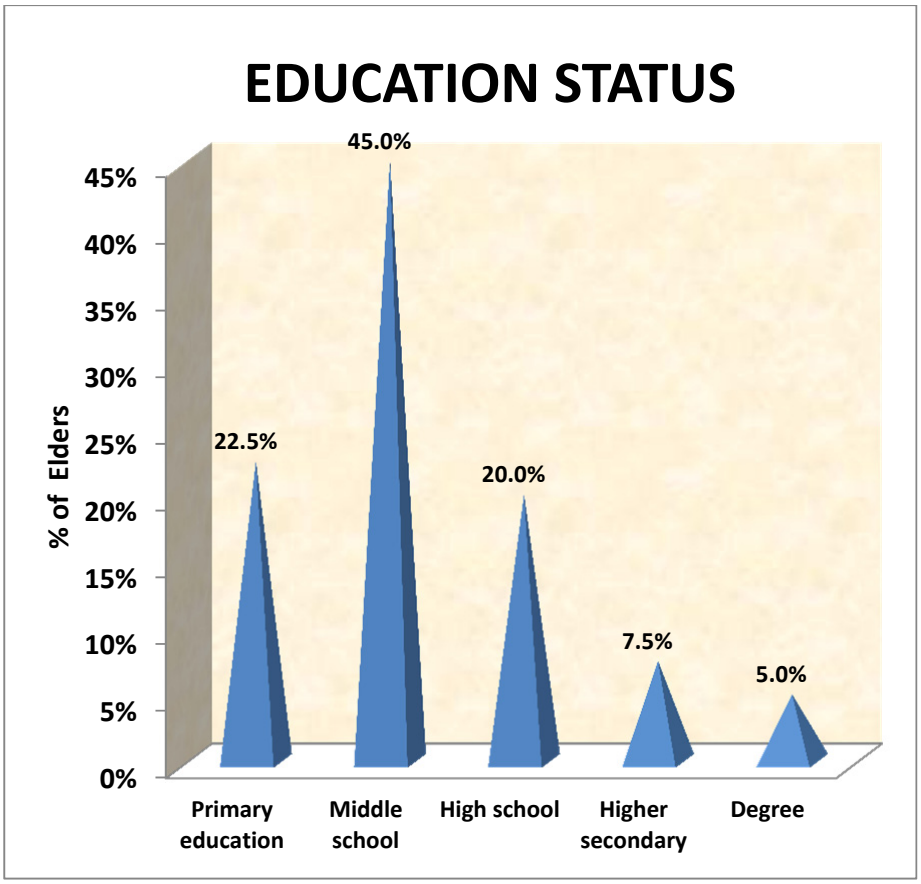

FIGURE: 6. Pyramid diagram states the distribution of elderly in selected old age home according to their educational status.

The above diagram states that the 18[45%] have studied up to middle level (i.e.) 8th standard, 9[22.5%] have studied up to primary level (i.e.) 5th standard, 3 [7.5%] have studied up to Higher secondary school level (i.e.) 12th standard,2[5%] were degree, none of them had no formal education.

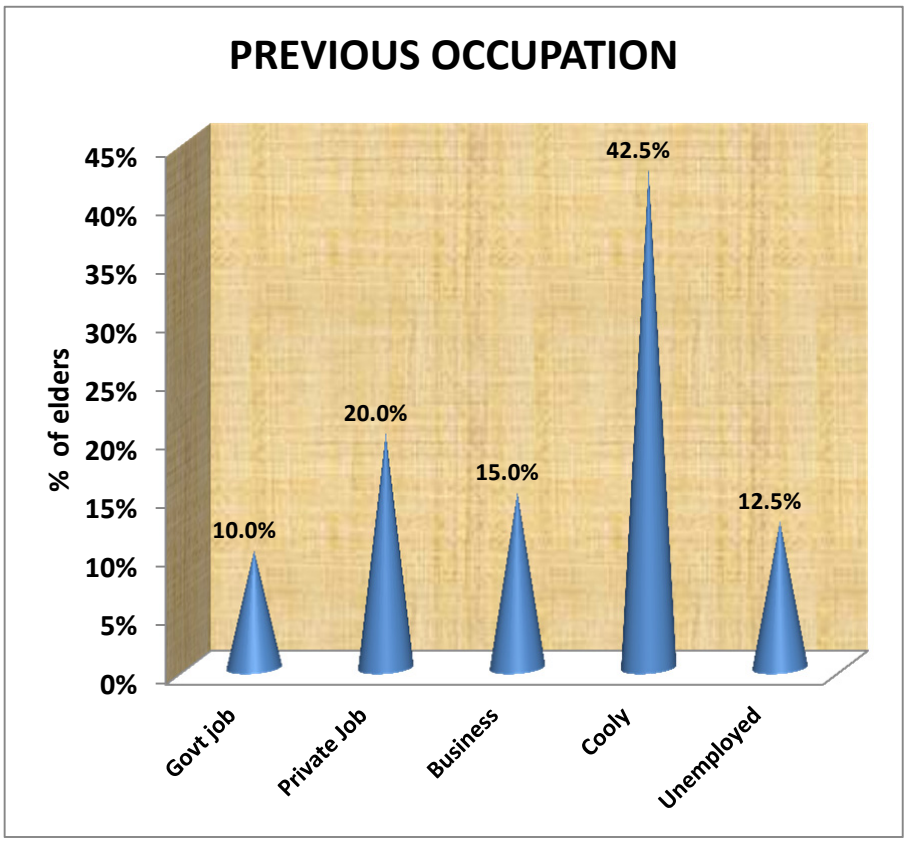

FIGURE: 7. Cone diagram manifests distribution of elderly in selected old age home according to their occupational status.

The above diagram manifests that the majority of the elderly 17[42.5%] were cooly, 8[20%] were private employers, 6(15.0%) were business group, 5(12.5%) were unemployed, 4(10.0%) were govt employers.

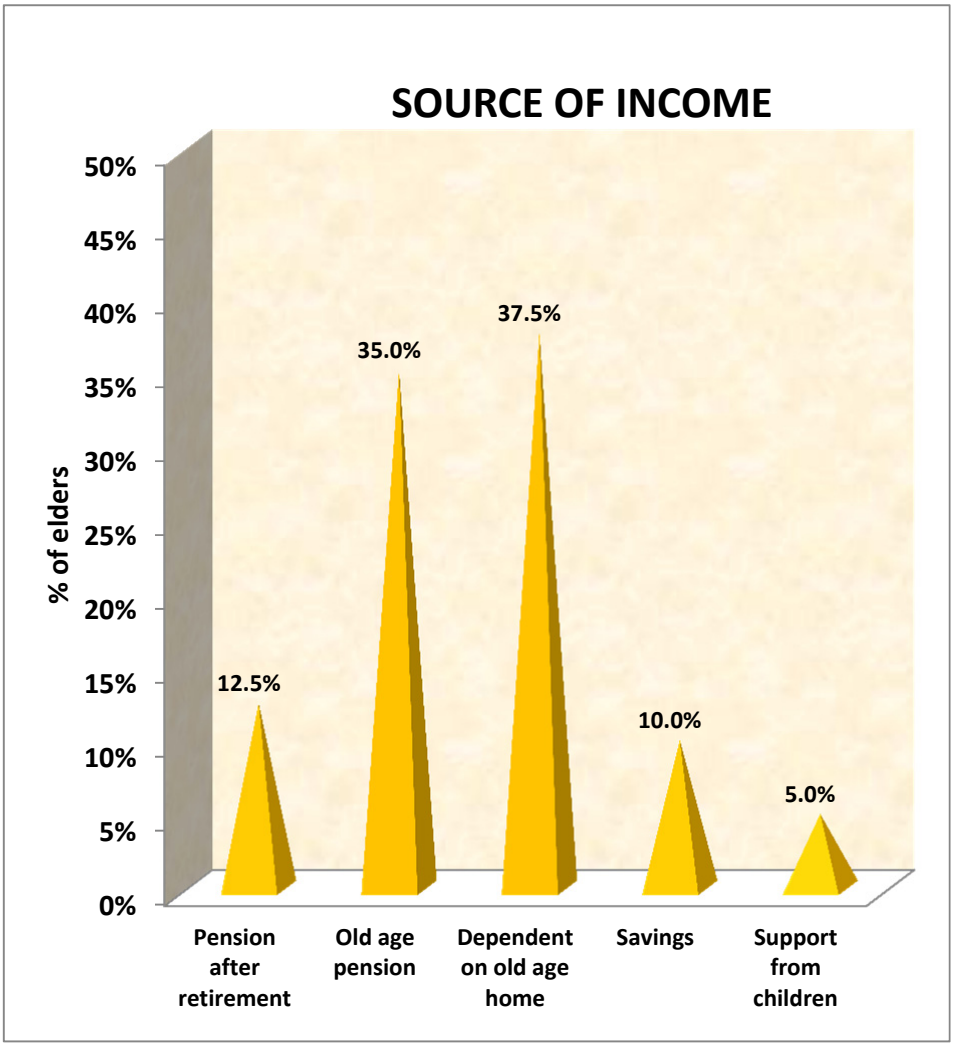

FIGURE:8. Simple Pyramid diagram depicts distribution of elderly in selected old age home according to their source of income.

The above diagram depicts that the majority 15[37.5%] were old age home dependents, 14[35%] were old age pensioners and 5[12.5%] were retired pensioners, 4(10%) were savings dependents, 2(5 %.) were depenents upon their children.

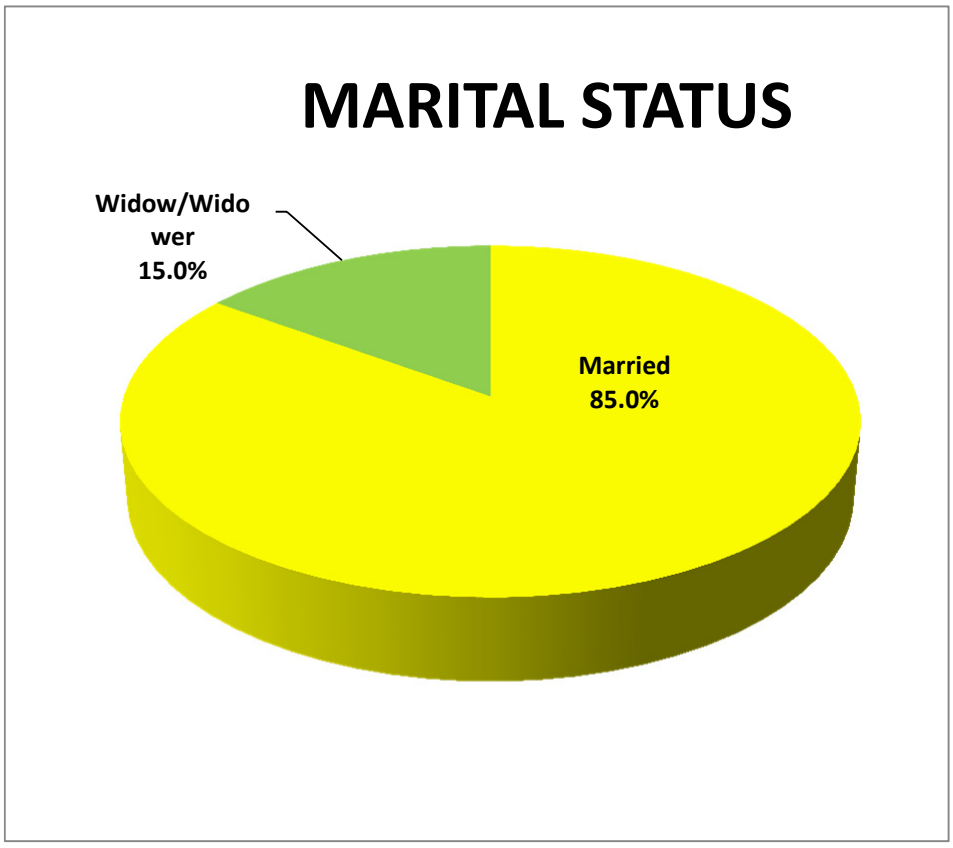

FIGURE: 9. Pie diagram narrates distribution of elderly in selected old age home according to their marital status.

The above diagram narrates that the majority of the elderly 34[85%] were married and the 6[15%] were widow / widower.

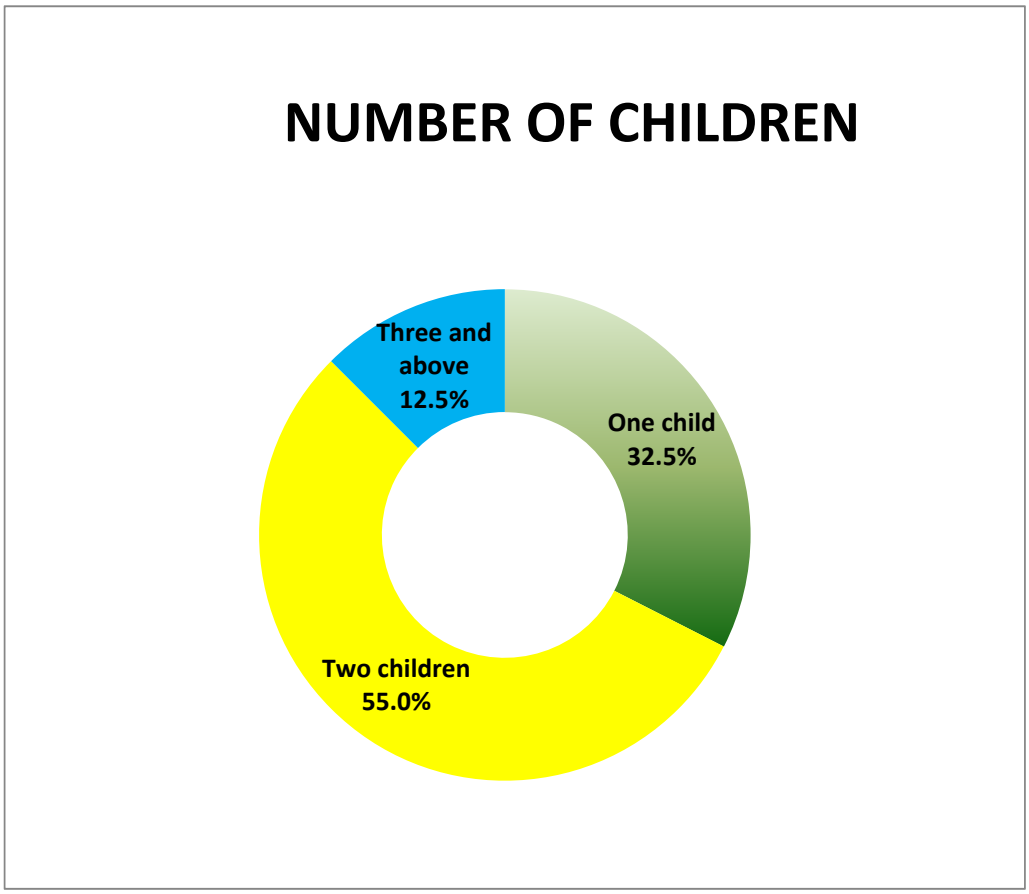

FIGURE: 10. Doughnut diagram depicts distribution of elderly in selected old age home according to their number of children.

The above diagram depicts that the majority of the elderly 22[55%] had 2 children, 13[32.5%] had 1child, and 5[12.5%] had three and above children.

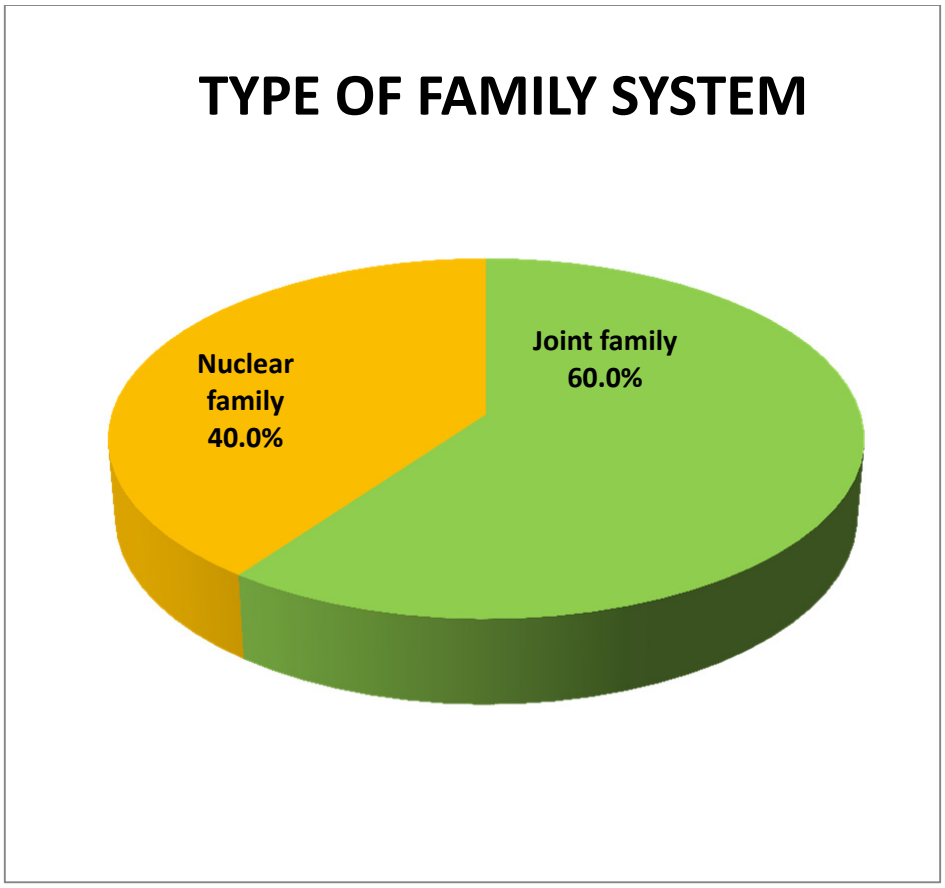

FIGURE: 11. Pie diagram identifies distribution of elderly in selected old age home according to their types of family.

The above diagram identifies that the majority of the elderly 24(60%) were hailed from joint family and remaining 16(40%) were hailed from nuclear family.

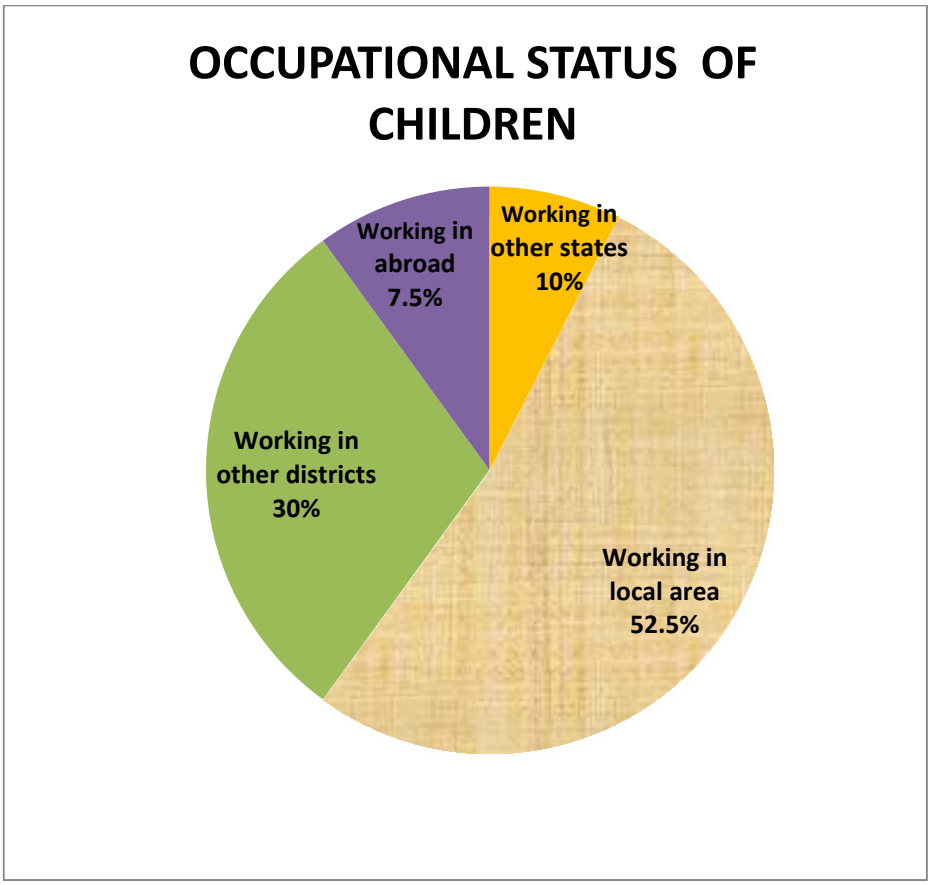

FIGURE: 12. Pie diagram portrays distribution of elderly in selected old age home according to their children's occupation.

The above diagram portrays that the majority of the elderly people's children 21(52.5%) were working in the local area, 12(30%) were working in other districts, 4(10.0%) were working in other states, 3(7.5%) were working in abroad.

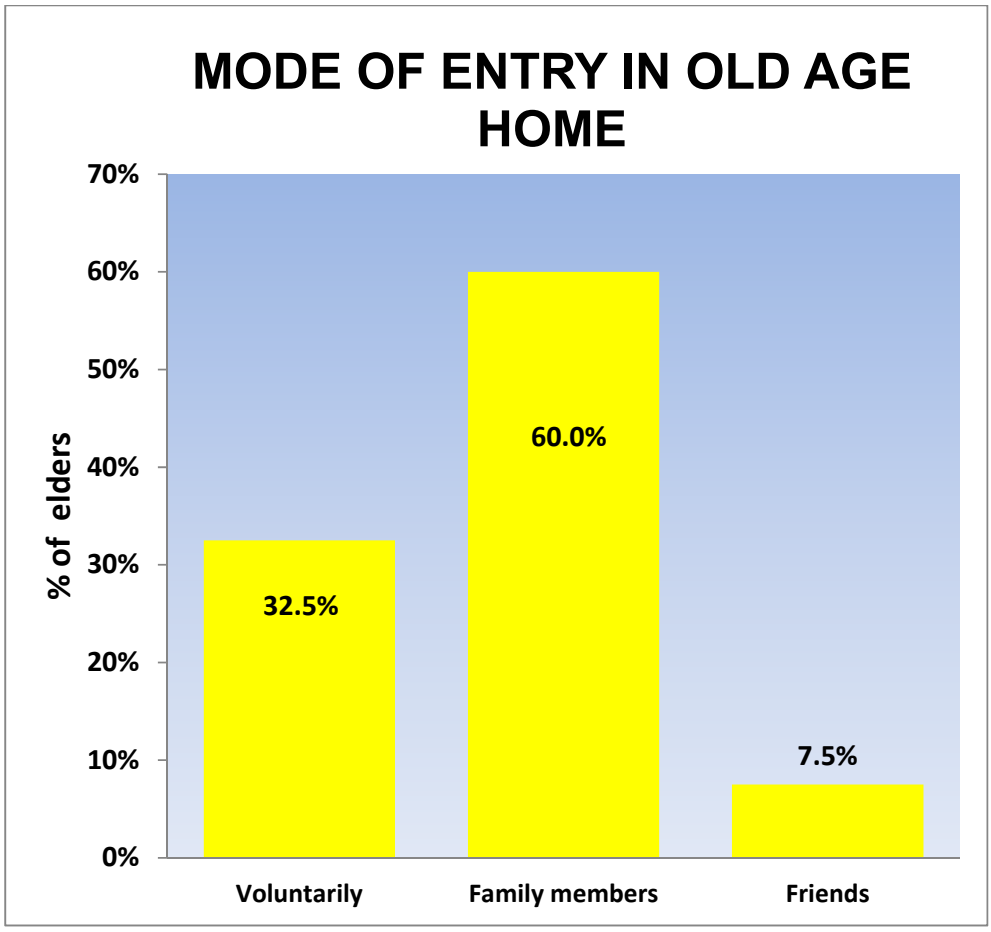

FIGURE: 13. Simple bar diagram explains distribution of elderly in selected old age home according to their mode of entry.

The above diagram explains that majority of elderly 24[60.0%] were entered in to old age home by family members, 13(32.5%) were by voluntary, 3(5%) were by friends.

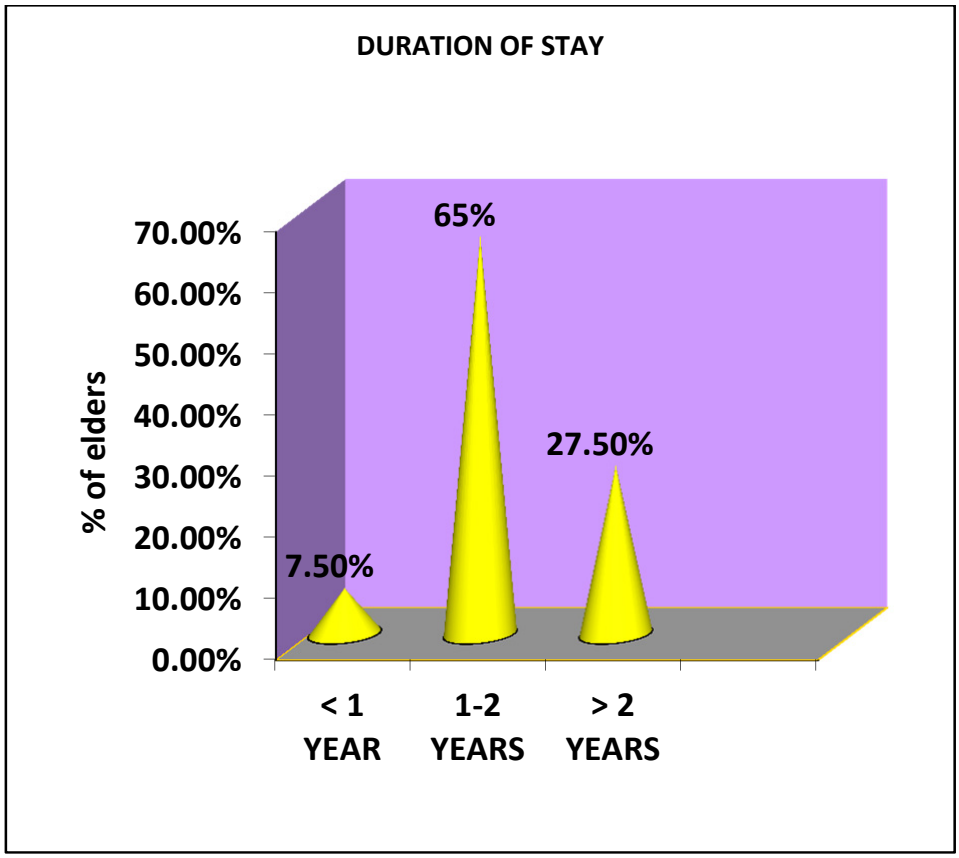

FIGURE: 14. Cone diagram depicts distribution of elderly in selected old age home according to duration of stay.

The above diagram depicts that majority 26[65%] were residing for a period from 1 -2 yrs, 11[27.5%] were residing for more than 2 yrs. 3[7.5%] were residing for less than one year.

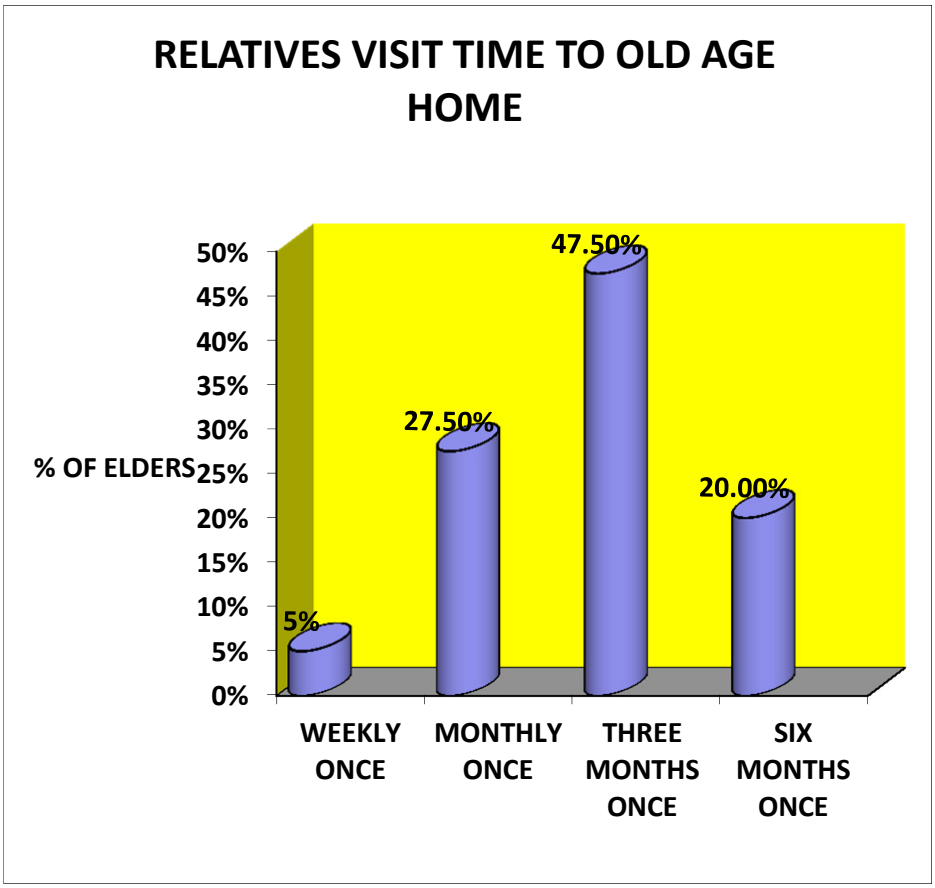

FIGURE: 15. Cylinder diagram narrates distribution of elderly in selected old age home according to relatives visit to old age home.

The above diagram narrates that the majority of elder's relatives 19(47.5%) visited to old age home in three months once, 11(27.5%) visited to old age home in monthly once, 8(20.0%) visited to old age home in six months once,2(5%) visited to old age home in weekly once.

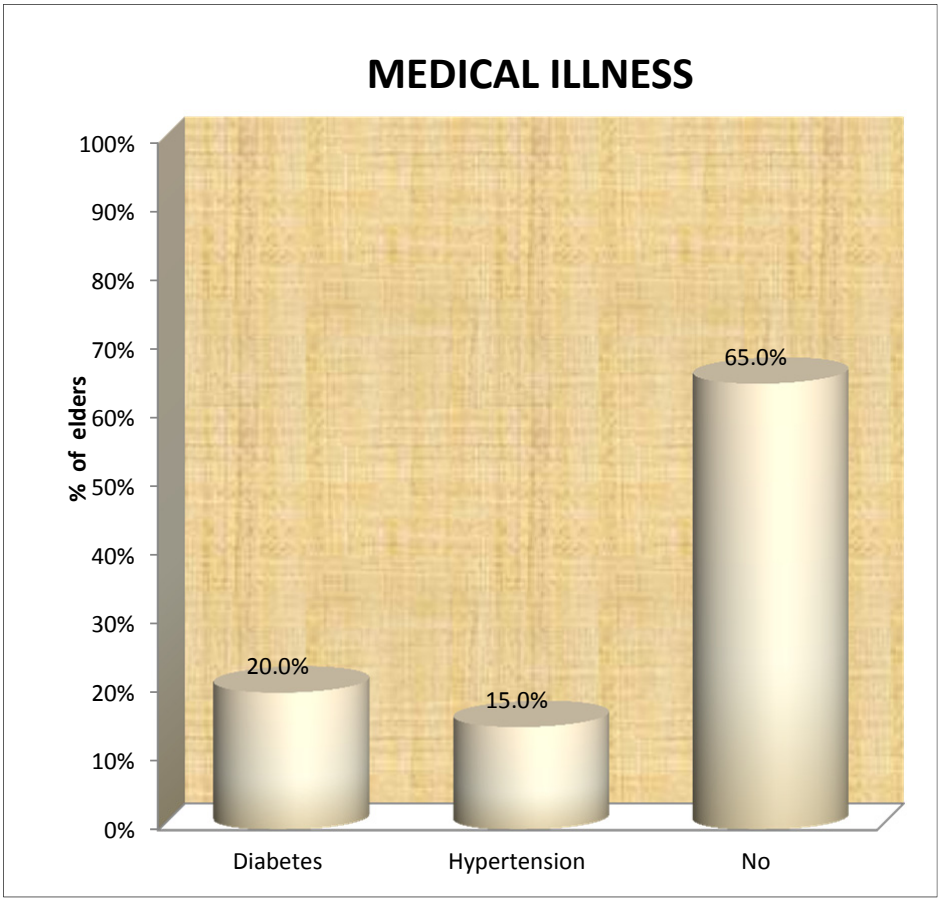

FIGURE: 16. Cylinder diagram manifests distribution of elderly in selected old age home according to their history of medical illness.

The above diagram manifests that majority of elderly 26[65%] did not have any illness and the remaining 8[20%] of them were diabetic patients and remaining 6(15.0%) were hypertensive patients.

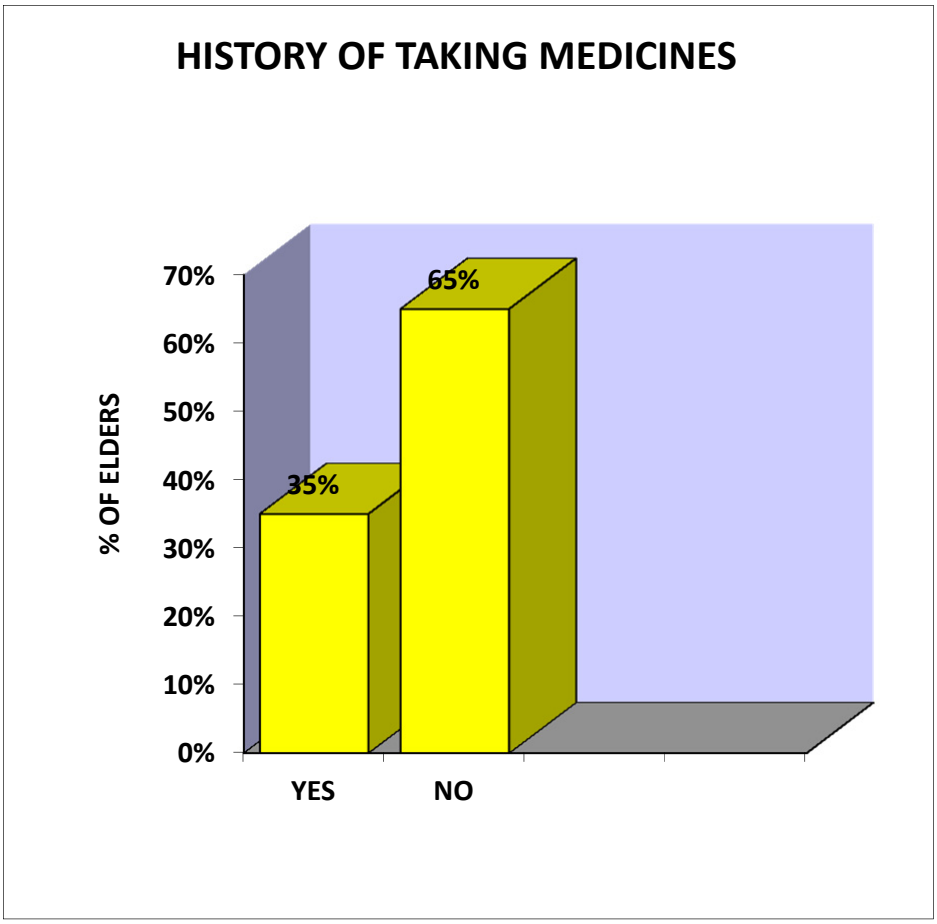

FIGURE: 17. Bar diagram depicts distribution of elderly in selected old age home according to their history of taking medicines.

The above diagram depicts that majority of elderly 26[65%] did not take any medications and the remaining 14[35%] of them were taking medications.

SECTION II

Table 2: DISTRIBUTION OF ELDERLY ACCORDING TO THE LEVEL OF DEPRESSION

n=40

LEVEL OF DEPRESSION	PRE TEST		POST TEST	
	f	%	f	%
Moderate	24	60%	6	15%
Mild	16	40.0%	19	47.5%
No Depression	0	0%	15	37.5%

The above table states that in the pre test majority of the elderly 24[60%] had moderate level of depression, 16[40.0 %] had mild level of depression. In the post test after intervention (Laughter therapy) about 19[47.5%] had mild depression, 15(37.5%) of them had no depression and 6(15%) had moderate depression.

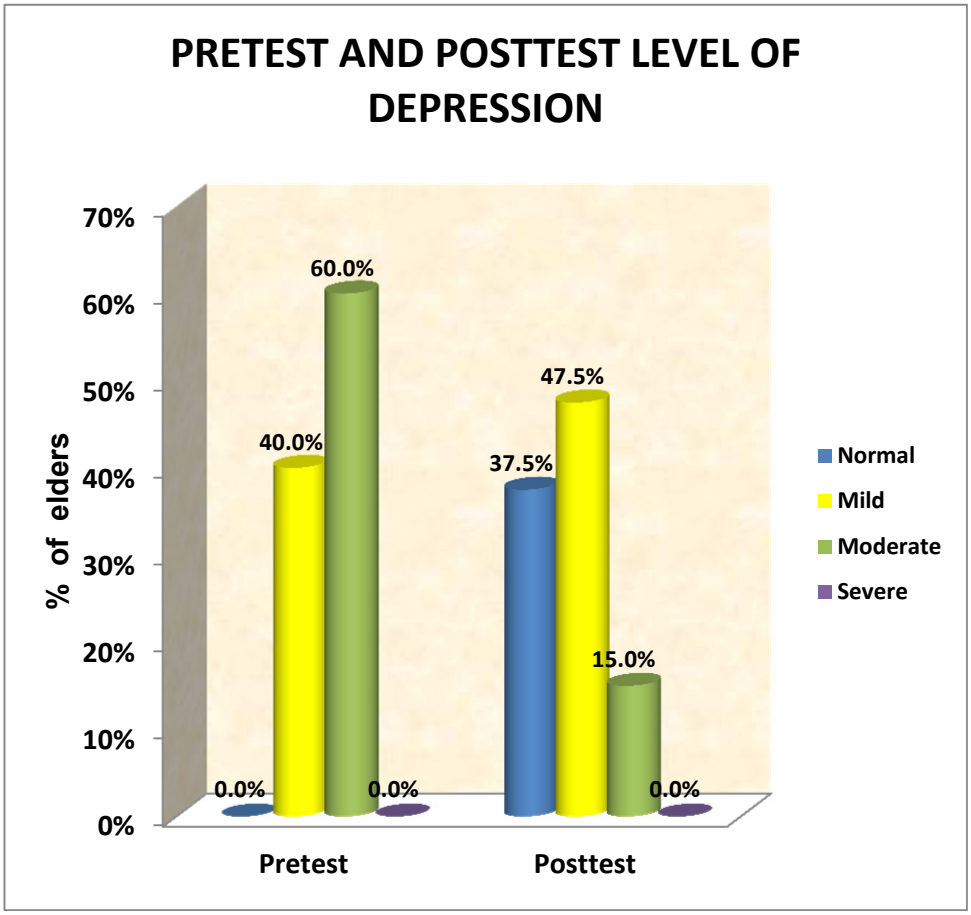

Figure: 18. Cylinder diagram quotes distribution of subjects according to their level of depression among elderly.

The above diagram quotes that in the pre test majority of the elderly 24 [60%] had moderate level of depression, 16[40.0 %] had mild level of depression. In the post test after intervention (Laughter therapy) about 19[47.5%] had mild depression,15(37.5%) of them had no depression and 6(15%) had moderate depression.

SECTION III

Table 3: EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY

	Mean	Mean Difference	SD	't' value	'P' Value
Pre Test	8.48	3.33	1.71	11.95 TV= 3.55	< 0.001
Post Test	5.15		2.16		

The table 3 depicts the Mean of the Pre test and Post test was 8.48 and 5.15 respectively and Standard Deviation of the Pre test and Post test was 1.71 and 2.16 respectively. The Mean difference was 3.33. The paired "t" test value was 11.95.This showed that there was a significant difference between the pretest and post test level of depression. Hence it was evidenced that laughter therapy was more effective in reducing depression among the elderly.

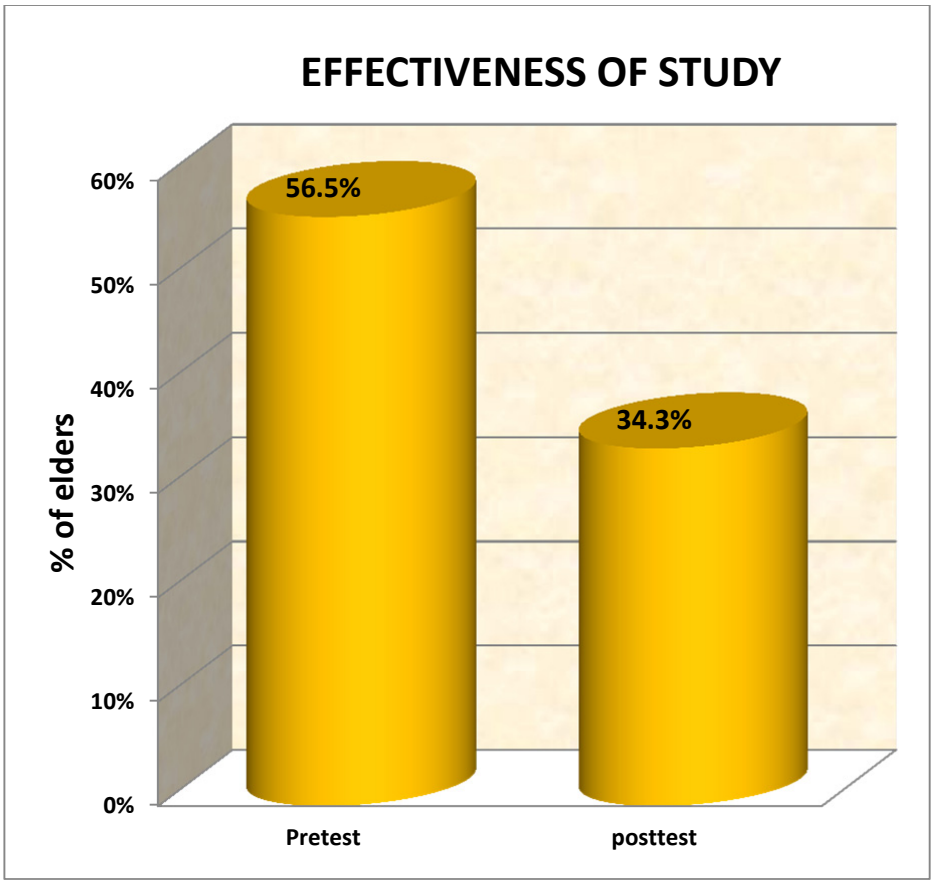

Figure. 19: Cylinder diagram depicts the Effectiveness of Laughter therapy on depression among elderly.

The above figure depicts that the mean of the pre test and post test was 8.48 and 5.15 respectively and standard deviation of the pre test and post test was 1.71 and 2.16. The mean difference was 3.33.The paired "t" test value was 11.95. P value was 0.001.It was significant at 5% level of significance.

Table 4: COMPARISON OF MEAN DEPRESSION SCORE

n=40

	No. of spouse	Mean ± SD	Mean difference	Student's paired t-test
Pre test	40	8.48±1.71	3.33	t=11.95 P=0.001***
Post test	40	5.15±2.16	TV = 3.55	significant

*** Significant at 0.001

The above table 4 depicts the comparison of mean depression score between pretest and post test. The pre test mean depression score was 8.48 with a standard deviation 1.71, whereas post test mean depression score was 5.15with a standard deviation 2.16. Mean difference is 3.33

The student paired 't' was done to find out the difference between the pre test and post test score, 't' value 11.95 was greater than the table value which was significant at 0.001 level. This shows that the difference in the score was due to the intervention (Laughter therapy) and also this proves that the laughter therapy was effective in reducing the depression among elderly residing in old age home.

COMPARISON OF THE MEAN DEPRESSION SCORE

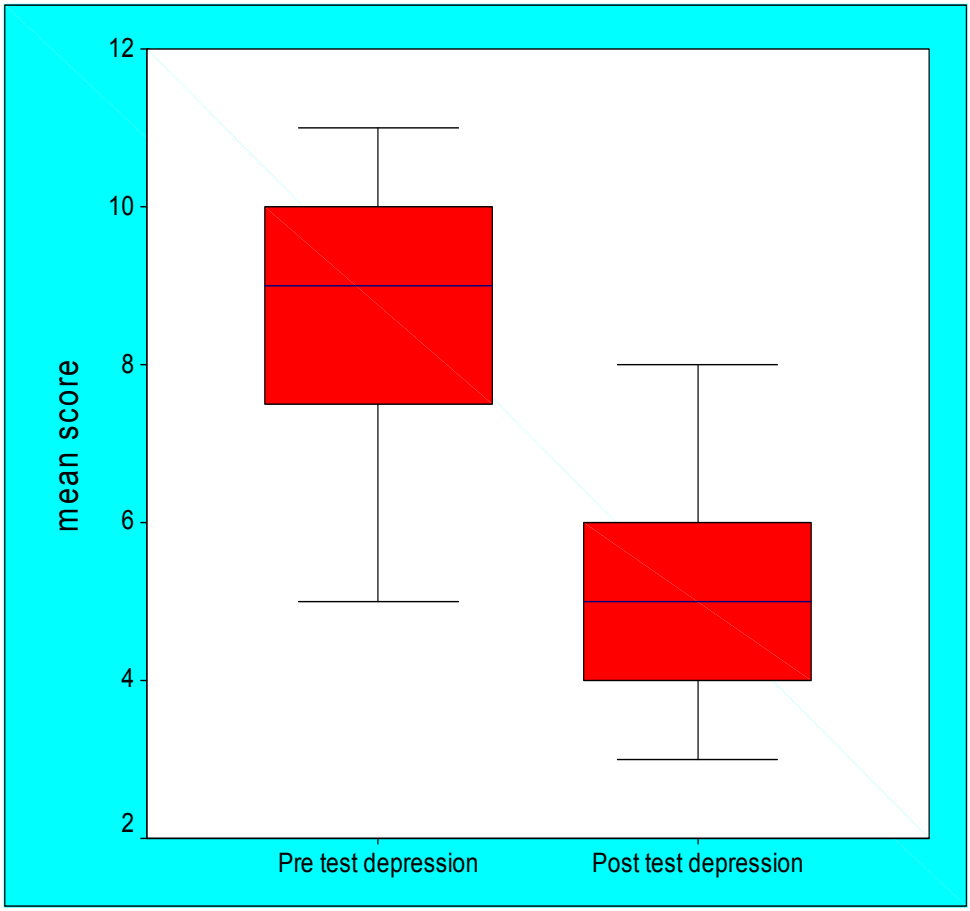

Fig 20: Box-plot diagram portrays the mean pre test-post test score among elderly. The pre test mean score was 8.48 with a standard deviation of 1.71; whereas the post test mean score was 5.15 with a standard deviation 2.10.mean difference is 3.33

Table 5: COMPARISON OF DEPRESSION REDUCTION SCORE

n=40

	Maximum score	Mean depression score	Mean Difference in depression reduction with 95% Confidence interval	Percentage of depression reduction with 95% Confidence interval
Pretest	15	8.48	3.33(2.76 – 3.89)	↓22.1% (18.4% – 25.9%)
Posttest	15	5.15		

Table 5 describes the Effectiveness of Laughter therapy on Depression among elderly in old age home.

On an average, after receiving laughter therapy, elderly depression was reduced 22.1% than pretest score. Differences between pretest and post test score was analyzed using proportion with 95% Confidence interval and mean difference with 95% Confidence interval. This 22.1% reduction score shows the effect of laughter therapy on depression among elderly.

SECTION IV

Table 6: Association between post test level of depression among elderly in the old age home and selected socio demographic variables.

n=40

Demographic variables		Post test level of depression						Total	χ^2
		Normal		Mild		Moderate			
		n	%	n	%	n	%		
Age	60 -70 yrs	13	43.3%	11	36.7%	6	20.0%	30	**χ^2=6.05**
	> 70 yrs	2	20.0%	8	80.0%	0	0.0%	10	**P=0.05***
Sex	Male	12	48.0%	12	48.0%	1	4.0%	25	**χ^2=7.34**
	Female	3	20.0%	7	46.7%	5	33.3%	15	**P=0.02***
Religion	Hindu	9	33.3%	14	51.9%	4	14.8%	27	χ^2=2.83
	Christian	3	42.9%	2	28.6%	2	28.6%	7	P=0.56
	Muslim	3	50.0%	3	50.0%			6	
Education	Primary education	4	44.4%	3	33.3%	2	22.2%	9	χ^2=5.98 P=0.65
	Middle school	4	22.2%	10	55.6%	4	22.2%	18	
	High school	4	50.0%	4	50.0%			8	
	Higher secondary	2	66.7%	1	33.3%			3	
	Degree	1	50.0%	1	50.0%			2	
Previous Occupation	Govt job	2	50.0%	2	50.0%			4	χ^2=5.23
	Private Job	2	25.0%	6	75.0%			8	P=0.73
	Business	3	50.0%	2	33.3%	1	16.7%	6	
	Cooly	6	35.3%	7	41.2%	4	23.5%	17	
	Unemployed	2	40.0%	2	40.0%	1	20.0%	5	
Source of income	Pension after retirement	3	60.0%	2	40.0%			5	χ^2=7.78 P=0.45
	Old age pension	7	50.0%	6	42.9%	1	7.1%	14	
	Dependent on old age home	3	20.0%	9	60.0%	3	20.0%	15	
	Savings	1	25.0%	2	50.0%	1	25.0%	4	
	Support from children	1	50.0%			1	50.0%	2	

Demographic variables		Post test level of depression						Total	χ2
		Normal		Mild		Moderate			
		n	%	n	%	n	%		
Marital status	Married	14	41.2%	15	44.1%	5	14.7%	34	χ2=1.37 P=0.50
	Widow/Widower	1	16.7%	4	66.7%	1	16.7%	6	
No. of Children	One child	4	30.8%	7	53.8%	2	15.4%	13	χ2=6.02 P=0.19
	Two children	11	50.0%	9	40.9%	2	9.1%	22	
	Three and above			3	60.0%	2	40.0%	5	
Type of family	Joint family	9	37.5%	12	50.0%	3	12.5%	24	χ2=0.32 P=0.84
	Nuclear family	6	37.5%	7	43.8%	3	18.8%	16	
Occupation of children	Working in abroad	2	66.7%	1	33.3%			3	χ2=3.17 P=0.78
	Working in local area	8	38.1%	9	42.9%	4	19.0%	21	
	Working in other districts	3	25.0%	7	58.3%	2	16.7%	12	
	Working in other states	2	50.0%	2	50.0%			4	
Mode of entry in old age home	Voluntarily	6	46.2%	3	23.1%	4	30.8%	13	χ2=6.15 P=0.18
	Family members	8	33.3%	14	58.3%	2	8.3%	24	
	Friends	1	33.3%	2	66.7%			3	
Duration of stay in old age home	Less than 1 year	2	66.7%			1	33.3%	3	χ2=6.67 P=0.15
	1- 2 years	10	38.5%	11	42.3%	5	19.2%	26	
	More than 2 years	3	27.3%	8	72.7%			11	
Relatives visit time to old age home	Weekly once			2	100.0%			2	χ2=5.16P=0.52
	Monthly once	4	36.4%	4	36.4%	3	27.3%	11	
	Three months once	7	36.8%	9	47.4%	3	15.8%	19	
	Six months once	4	50.0%	4	50.0%			8	
Medical illness	Diabetes	1	12.5%	3	37.5%	4	50.0%	8	**χ2=15.09**
	Hypertension	1	16.7%	3	50.0%	2	33.3%	6	**P=0.01****
	No	13	50.0%	13	50.0%	0	0.0%	26	
History of taking medicine	Yes	2	14.2%	6	42.9%	6	42.9%	14	**χ2=14.33P=0.01****
	No	13	50.0%	13	50.0%	0	0.0%	26	

***Significant at 0.05% level**

Table 6 manifests the association between the post depression score of elderly and their selected socio demographic variables. Chi-square analysis revealed that, there was a significant association between the post depression score and age, sex, medical illness, history of taking medicines. All other variables were not significantly associated among elderly with their post test score.

Table 7: ASSOCIATION BETWEEN LEVEL OF DEPRESSION REDUCTION SCORE AMONG ELDERLY AND SOCIO DEMOGRAPHIC VARIABLES

n= 40

Demographic variables		Level of Depression reduction level				Total	χ^2 Chi square test
		Below average(<3.32)		Above average(>3.32)			
		n	%	n	%		
Age	60 -70 yrs	12	40.0%	18	60.0%	30	**χ2=4.80**
	> 70 yrs	8	80.0%	2	20.0%	10	**P=0.03***
Sex	Male	9	36.0%	16	64.0%	25	**χ2=5.22**
	Female	11	73.3%	4	26.7%	15	**P=0.02***
Religion	Hindu	16	59.3%	11	40.7%	27	χ2=3.73
	Christian	3	42.9%	4	57.1%	7	P=0.16
	Muslim	1	16.7%	5	83.3%	6	
Education	Primary education	7	77.8%	2	22.2%	9	χ2=8.00 P=0.09
	Middle school	10	55.6%	8	44.4%	18	
	High school	2	25.0%	6	75.0%	8	
	Higher secondary			3	100.0%	3	
	Degree	1	50.0%	1	50.0%	2	
Previous Occupation	Govt job	1	25.0%	3	75.0%	4	χ2=4.49
	Private Job	3	37.5%	5	62.5%	8	P=0.36
	Business	2	33.3%	4	66.7%	6	
	Cooly	10	58.8%	7	41.2%	17	
	Unemployed	4	80.0%	1	20.0%	5	
Source of income	Pension after retirement	2	40.0%	3	60.0%	5	χ2=3.94 P=0.14
	Old age pension	5	35.7%	9	64.3%	14	
	Dependent on old age home	9	60.0%	6	40.0%	15	
	Savings	2	50.0%	2	50.0%	4	
	Support from children	2	100.0%			2	

Demographic variables		Level of Depression reduction level				Total	χ^2 Chi square test
		Below average(<3.32)		Above average(>3.32)			
		n	%	n	%		
Marital status	Married	17	50.0%	17	50.0%	34	$\chi2$=0.00
	Widow/Widower	3	50.0%	3	50.0%	6	P=1.00
No. of Children	One child	8	61.5%	5	38.5%	13	$\chi2$=1.07
	Two children	10	45.5%	12	54.5%	22	P=0.58
	Three and above	2	40.0%	3	60.0%	5	
Type of family	Joint family	12	50.0%	12	50.0%	24	$\chi2$=0.00
	Nuclear family	8	50.0%	8	50.0%	16	P=1.00
Occupation of children	Working in abroad			3	100.0%	3	$\chi2$=4.76 P=0.19
	Working in local area	12	57.1%	9	42.9%	21	
	Working in other districts	7	58.3%	5	41.7%	12	
	Working in other states	1	25.0%	3	75.0%	4	
Mode of entry in old age home	Voluntarily	7	53.8%	6	46.2%	13	$\chi2$=0.57
	Family members	11	45.8%	13	54.2%	24	P=0.74
	Friends	2	66.7%	1	33.3%	3	
Duration of stay in old age home	Less than 1 year	2	66.7%	1	33.3%	3	$\chi2$=1.30
	1- 2 years	14	53.8%	12	46.2%	26	P=0.52
	More than 2 years	4	36.4%	7	63.6%	11	

Demographic variables		Level of Depression reduction level				Total	χ^2 Chi square test
		Below average (<3.32)		Above average (>3.32)			
		n	%	n	%		
Relatives visit time to old age home	Weekly once	1	50.0%	1	50.0%	2	χ^2=2.63 P=0.42
	Monthly once	7	63.6%	4	36.4%	11	
	Three months once	7	36.8%	12	63.2%	19	
	Six months once	5	62.5%	3	37.5%	8	
Medical illness	Diabetes	7	87.5%	1	12.5%	8	**χ^2=7.62P=0.02***
	Hypertension	4	66.7%	2	33.3%	6	
	No	9	34.7%	17	65.3%	26	
History of taking medicine	Yes	10	71.4%	4	28.6%	14	**χ^2=3.96P=0.04***
	No	10	38.5%	16	61.5%	26	

Table 7 explains the association between level of depression reduction score among elderly with their selected socio demographic variables. Chi- square analysis revealed that there was association between the level of depression reduction and age (60-70 years), sex(male),and medical illness(No medical illness),history of taking medicines (Not taking medicines) were benefited more than others. Statistical significance was calculated using chi square analysis.

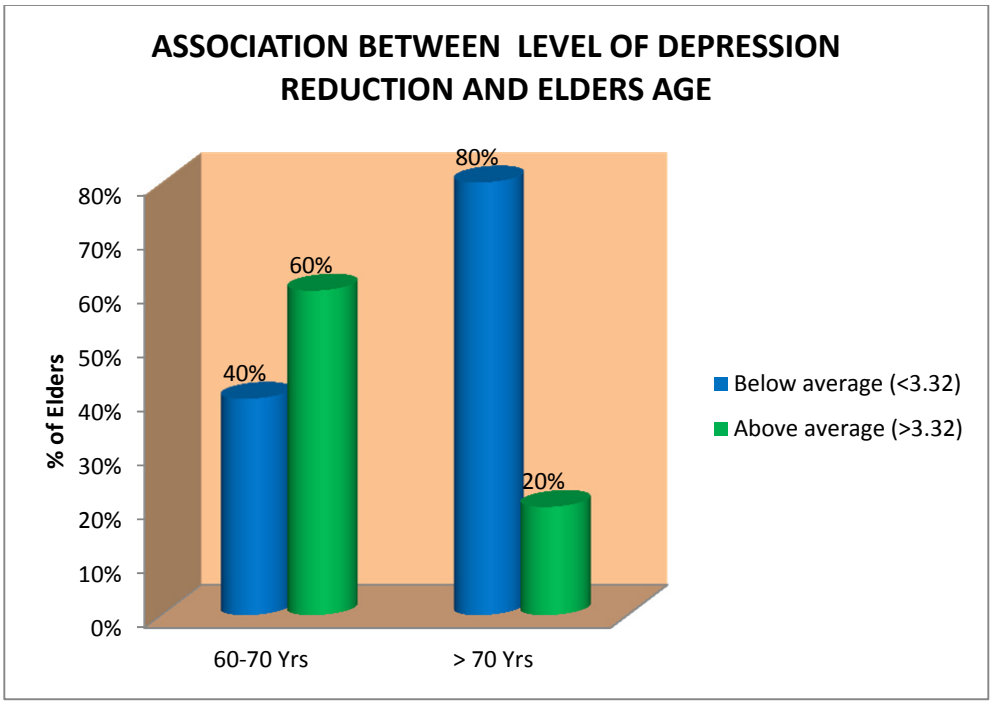

Figure.21: Multiple Cylinder diagram depicts the association between the level of depression reduction and age of elderly.

The above figure depicts the association between level of depression reduction among elderly with their selected socio demographic variables. According to age of elderly, the age group of 60-70 years were reduced more depression than other age groups.

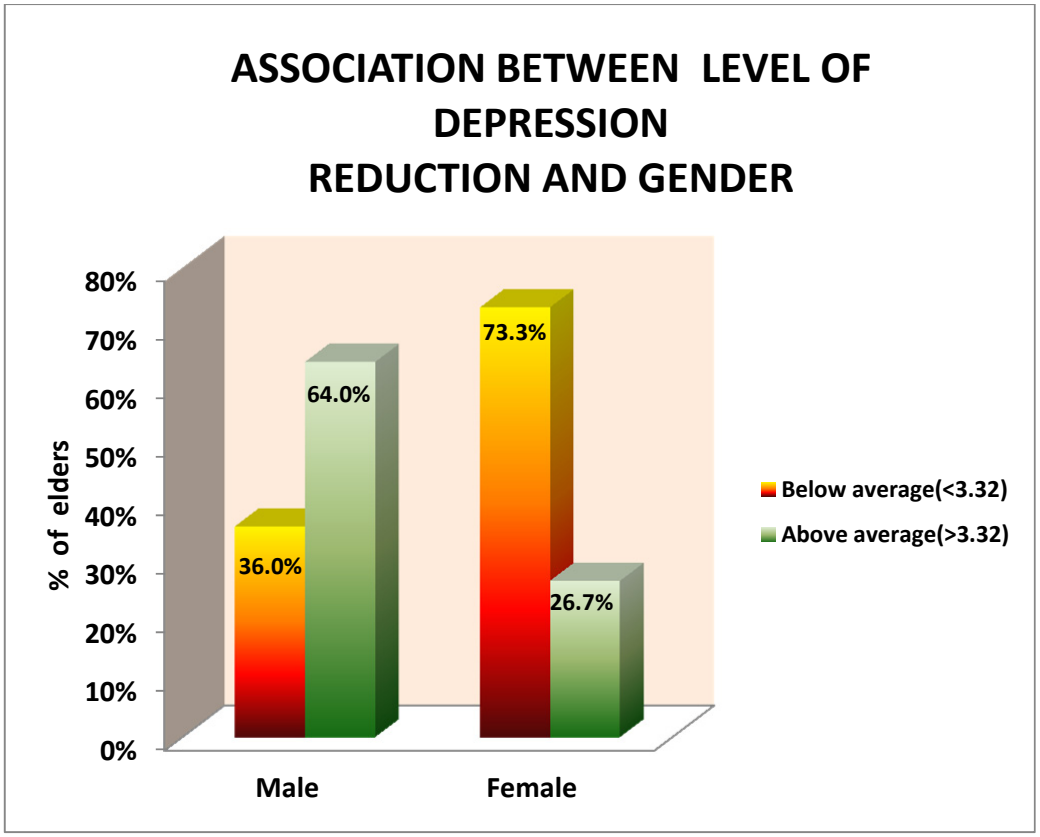

Figure.22: Multiple bar diagram showing association between the level of depression reduction and the gender of elderly.

The above figure depicts the association between level of depression reduction among elderly with their selected socio demographic variables. According to sex, males were reduced more depression than other females.

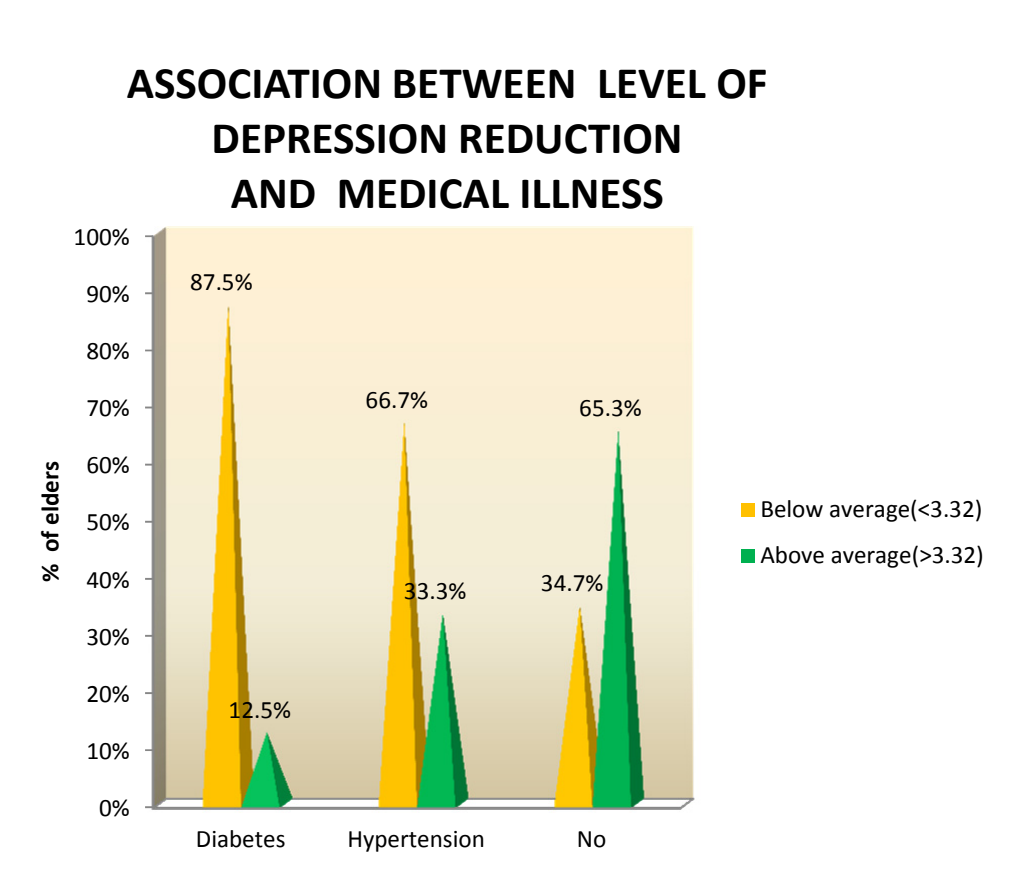

Figure.23: Pyramid diagram showing association between the level of depression reduction and the medical illness of elderly.

The above figure depicts the association between level of depression reduction among elderly with their selected socio demographic variables. According to medical illness, elderly not having any medical illness were reduced more depression than others

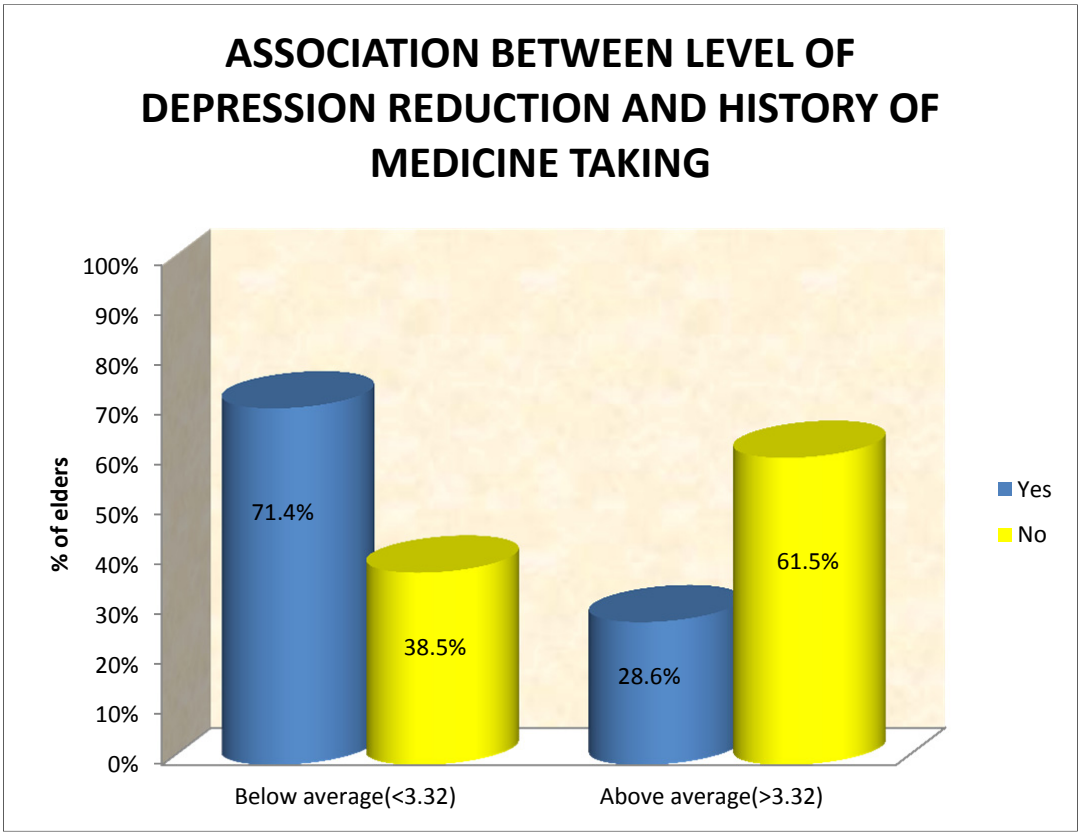

Figure.24: Multiple Cylinder diagram showing association between the level of depression reduction and the history of taking medicines of elderly.

The above figure depicts the association between level of depression reduction among elderly with their selected socio demographic variables. According to history of taking medicines, elderly not taking any medicines were reduced more depression than others.

Discussion

CHAPTER – V
DISCUSSION

This chapter deals about the results of the study interpreted from the statistical analysis. Old age is not a disease but it affects every aspect of their life, better psychological perception about their life tends to reduce their depression and this in turn improves the quality of life among elderly. It gives soul to the universe, wings to the mind, flight to the imagination, a charm to sadness gaiety and life to everything. It is the essence of order, and leads to all that is good and beautiful. The present study was conducted to evaluate the effectiveness of laughter therapy on depression among elderly residing in selected old age home at Madurai.

DISTRIBUTION OF SUBJECTS ACCORDING TO THEIR SOCIO DEMOGRAPHIC VARIABLES.

Regarding age group of the elderly majority of the elderly 30[75%] were in the age group of 60-70 years, 10[25%] were in the age group of above 70 years.

While comparing the sex, majority of the elderly 25[62.5%] were male and 15 [37.5%] were females.

Regarding religion, most of the elderly 27[67.5%] were Hindus and 7[17.5%] were Christians and remaining 6(15%) were Muslims.

While comparing the Educational status 18[45%] have studied up to middle level (i.e.) 8th standard, 9[22.5%] have studied up to primary level (i.e.) 5th standard, 8(20%) have studied up to high school, 3[7.5%] have studied up to Higher secondary

school level (i.e.) 12th standard,2[5%] were degree, none of them had no formal education.

While discussing the previous occupational status majority of the elderly 17[42.5%] were cooly, 8[20%] were private employers, 6(15.0%) were business group, 5(12.5%) were unemployed, 4(10.0%) were govt employers.

While comparing the source of income, majority 15[37.5%] were old age home dependents, 14[35%] were old age pensioners and 5[12.5%] were retired pensioners, 4(10%) were savings dependents, 2(5 %.) were dependents upon their children.

Regarding the marital status majority of the elderly 34[85%] were married and the 6[15%] were widow / widower.

While comparing the number of children majority of the elderly 22[55%] had 2 children, 13[32.5%] had 1child, and 5[12.5%] had three and above children.

While discussing the type of family, majority of the elderly 24(60%) were hailed from joint family and remaining 16(40%) were hailed from nuclear family.

Regarding the occupation of children, majority of the elderly people's children 21(52.5%) were working in the local area, 12(30%) were working in other districts, 4(10.0%) were working in other states, 3(7.5%) were working in abroad.

While comparing the mode of entry to old age home, 24[60.0%] were by family members, 13(32.5%) were by voluntary, 3(7.5%) were by friends.

Regarding duration of stay in the old age home 26[65%] were residing for a period from 1 -2 yrs, 11[27.5%] were residing for more than 2 yrs. 3[7.5%] were residing for less than one year.

While discussing the relatives visit time to old age home, the majority of elder's relatives 19(47.5%) visited to old age home in three months once,11(27.5%) visited to old age home in monthly once,8(20.0%) visited to old age home in six months once,2(5%) visited to old age home in weekly once.

Regarding presence of medical illness any 26[65%] did not have any illness and the remaining 8[20%] of them were diabetic patients and remaining 6(15.0%) were hypertensive patients.

While comparing history of taking continuous medications 26[65%] did not take any medications and the remaining 14[35%] of them were taking medications.

The first objective of the study was to assess the level of depression among the elderly residing in selected old age home at Madurai.

Geriatric depression scale was used in this study to assess the level of depression among elderly in sellur old age home at sellur. In the pretest, majority of elderly 24[60.0%] had moderate level of depression, 16 [40%] had mild level of depression. This study revealed that elderly in the old age home have moderate level of depression.

These findings were supported by Bergkvist k, Wengster Hymn(2006) in a study regarding prevalence of depression among 80 elderly in old age homes in mangalore. Majority of the elderly 48(60%) had moderate level of depression,16(30%) had mild level of depression, 16(30%) had severe level of depression.

These findings congruent with the study done by Dodd MJ (2004).Measuring the depression levels of elderly residing at old age homes, they had higher level of depression when compared with those who live with their families. The depression level varies according to their demography and various influencing factors and the prevalence rate was observed to be 60% for woman and 40% for men.

These findings were also supported by Marsion (2000) in a study on prevalence of clinically significant depressive symptoms among elderly in old age homes in Manipur. Totally 1200 older elderly were assessed with Geriatric depression scale. The prevalence rate was observed to be 27.8% for men 30.8% for women.

These findings congruent with the study done by James (2000) in a study regarding the prevalence of depression among 200 elderly in eight old age homes in Alahabad. Majority of the elderly 110(55%) had moderate level of depression, 60 (30%) had mild level of depression, 30(15%) had severe level of depression.

The second objective of the study was to assess the effectiveness of Laughter therapy on depression among elderly residing at selected old age home at Madurai.

In the pretest, majority of elderly 24[60.0%] had moderate level of depression, 16 [40%] had mild level of depression. In the post test 19[47.5%] had mild level of depression, 15(37.5%) of them had no depression and 6(15%) had moderate depression.

The mean pre test was 8.48 and mean post test was 5.15 respectively with standard deviation of pre test was 1.71 and post test was 2.16.The mean difference is 3.33.

The student paired‘t’ was done to find out the difference between pre test and post test score. The paired‘t’ test value 11.95 was greater than the table value (3.55) which was significant at 0.001 level.

Difference between the pre test and post test was analysed using proportion with 95% confidence interval and mean difference with 95% confidence interval. The difference shows the effect of laughter therapy on depression among elderly.

This finding was also supported by a study done by Weinberg (2010) among 40 individuals recruited from selected old age home, who had a moderate or severe range of depression. The aim of the study was to assess the effects of laughter therapy on Depression. The individuals were divided into 10 members as 4 groups. For Each group Laughter therapy was given for 15-20 mts for 10 consecutive days. GDC Scale was used. This study shows that there is significant difference between the mean score of pre test and post test (mean of pre test 10 and mean of post test is 7 and t= 10.71, $p < 0.05$). The results showed that laughter therapy was effective in decreasing depression among the elderly in old age home.

The findings were also consistent with the findings of Radhakrishnan (2012) in Arunothayam old age home at Bangalore the university among 60 institutionalized elderly. The objective of the study was to determine the effects of laughter therapy on depression. The result showed that the depression level of subjects who received laughter therapy in the form of laughter exercises was found to be significantly lower. And also that this non-invasive intervention has potential for enhancing the quality of life for this population.

This finding was also supported by a study done by Goyal (2010) among elderly in the Susil old age home at Kanpur. The aim of the study was to assess the effects of laughter therapy on depression. 80 elderly received 10~15 min of laughter therapy twice a day for 6 weeks. The instruments included Geriatric Depression Scale to measure depression before and after the laughter therapy. The study result showed that the mean post-test depression scores (13.97) was apparently lower than the mean pre-test depression score (18.97). There was a significant difference between pre-test depression score and the post-test depression scores ($t=33.696$, $p< 0.05$)The results showed that laughter therapy was effective in decreasing depression among the elderly in old age home.

The findings were also consistent with the findings of Gillbert (2010) among forty elderly residing at old age home at Sydney, Australia. Laughter therapy was given for 10 members as 4 groups. For Each group Laughter therapy was given for 15-20 mts for 10 consecutive days. GDC Scale was used. This study shows that there was significant difference between the mean score of pre test and post test (mean of pre test 10 and mean of post test is 7 and $t= 10.71$, $p < 0.05$). The results showed that laughter therapy was effective in decreasing depression among the elderly in old age home.

Hence the stated hypotheses H1 "There is a significant difference in the level of depression among elderly residing in old age home before and after laughter therapy" was accepted.

The third Objective of the study was to associate the level of depression among elderly residing in old age home with their selected socio demographic variables.

Chi square analysis was calculated to determine the association between the socio demographic variables and the level of depression among the elderly.

Table 6 portrays the association between the post test level of depression and their selected socio demographic variables. Chi-square analysis revealed that there was a significant association between the post depression score and age ($\chi 2=6.05$), sex ($\chi 2=7.34$), medical illness ($\chi 2=15.09$), history of taking medicines ($\chi 2=14.33$). All other variables such as religion, education, previous occupation, source of income and marital status, number of children, type of family, occupation of children and mode of entry, duration of stay, relatives visit time to old age home were not significantly associated among elderly with their post test score.

This study finding was consistent with the study findings of Sharma (2013) who did a study on effectiveness of laughter therapy on depression among elderly residing at old age homes of Nagpur. The findings suggested that laughter therapy was effective in reducing depression and the depression scores were associated with age ($\chi 2=6.05$) sex (($\chi 2=10.34$), education ($\chi 2=8.34$), (medical illness ($\chi 2=11.34$) history of taking medicines ($\chi 2=13.34$)

This finding was also supported by a study done by Thomas (2010) among elderly in the old age homes of Raichur. The findings suggested that laughter therapy was effective in reducing depression and the depression scores were associated with

age ($\chi 2$=6.05), sex ($\chi 2$=9.25), type of family ($\chi 2$=9.25), medical illness ($\chi 2$=10.34) history of taking medicines($\chi 2$=14.25).

This study finding was consistent with the study findings of Narayan (2008) who did a study on effectiveness of laughter therapy on depression among elderly residing at five old age homes of surath. The results showed that laughter therapy was effective in reducing depression and the depression scores were associated with age sex ($\chi 2$=8.05), education ($\chi 2$=10.25), previous occupation ($\chi 2$=15.25) type of family ($\chi 2$=7.05), medical illness ($\chi 2$=12.05), history of taking medicines ($\chi 2$=13.75).

Hence the stated Hypotheses H2 "There is a significant association between the level of depression among elderly residing in old age home and their selected socio demographic variables." was accepted.

Summary, Conclusion & Recommendations

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter presents the summary of the study and conclusion drawn, clarifies the limitation of the study, the implications and the recommendations, different areas like nursing practice, nursing education, nursing administration and nursing research.

6.1 SUMMARY OF THE STUDY

"A study to assess the effectiveness of laughter therapy on depression among elderly residing in selected old age home at Madurai."

OBJECTIVES OF THE STUDY

1. To assess the level of depression among the elderly residing in old age home at Madurai.
2. To assess the effectiveness of laughter therapy on depression among elderly residing in old age home at Madurai.
3. To associate the level of depression among elderly residing in old age home with their selected socio demographic variables.

HYPOTHESES

The following hypotheses were set for the study, at 0.05 level of significance.

H1: There is a significant difference between the level of depression among the elderly before and after laughter therapy.

H2: There is a significant association between the level of depression among elderly residing in old age home and their selected socio demographic variables.

The conceptual model of this study was based on Imogene king's Goal Attainment Theory. The study was conducted by using one group pre test Post test design at Sellur old age home, Sellur, Madurai. The population of the study were elderly residing at old age home with mild to moderate level of depression. Purposive sampling technique was used to select the sample. The study consisted of 40 elderly residing at Sellur old age home, Sellur with mild to moderate level of depression A Pilot study was conducted on 10 of the non study subjects at Inba Illam old age home at pasumalai, madurai to find out the feasibility and practicability for conducting the study. After testing the validity and reliability, the tool was used for data collection. The participants of the pilot study were excluded from the main study. Data gathered were analysed by using both descriptive and inferential statistics.

6.2 MAJOR FINDINGS OF THE STUDY WERE

- Majority of the elderly 30[75%] were in the age group of 65-70 years, Majority of them 25 [62.5%] were males.
- Most of the elderly 27[67.5%] were Hindus and 18 [45%] have studied up to middle level. Considering the previous occupational status, majority 17[42.5%] were cooly workers. With reference to source of income majority of the elderly 15[37.5%] were dependent on old age home.
- Majority of the elderly 34[85%] were married, and 22[55%] had two children, Majority of the elderly 24(60%) were hailed from joint family. Considering the occupation of elder's children, Majority 21(52.5%) were working in local area.
- Majority of the elderly 24[60%] were admitted in the old age home by family members, Majority of duration of stay in the old age home 26[65%] were

residing in old age home for 1-2 years. Considering the relatives of elderly visit time to the old age home, 19(47.5%) were visiting three months once.

- Majority of the elderly 26[65%] did not have any medical illness, 26[65%] did not take any medications and the remaining 14[35%] of them were taking regular medications for certain illnesses.
- In the pretest majority 16[40%] had mild level of depression, 24[60%] had moderate level of depression. Where as in the post test 19[47.5%] had mild depression, 15 (37.5%) of them had no depression and 6(15%) had moderate depression.
- There was a highly significant difference in the mean scores between pretest and post test in relation to depression among elderly.
- The mean post test depression score 5.15 was significantly lesser than the mean pre test depression score 8.48, this difference in mean is a true difference by the intervention laughter therapy and not by chance.
- There was a significant association between the post test level of depression and age (**$\chi 2=6.05$**), sex (**$\chi 2=7.34$),** medical illness (**$\chi 2=15.09$**), history of taking medicines (**$\chi 2=14.33$**), among elderly in the old age home.
- There was no significant association between the post test level of depression and the other socio demographic variables such as religion, education, previous occupation source of income, and marital status, number of children, type of family, occupation of children, and mode of entry, duration of stay, relatives visit time to old age home.
- Laughter therapy was effective in reducing the depression levels of the elderly residing at old age homes.

6.3 CONCLUSION

The study findings brought out the following conclusion

- There was a significant difference between mean pretest and mean post test depression scores among elderly in old age home at P< (0.005) level of significance.
- There was a significant association between the level of depression and age, sex, medical illness, and history of taking medicines among elderly in the old age home.
- There was no significant association between the post test level of depression and the other socio demographic variables such as religion, education, previous occupation source of income, and marital status, number of children, type of family, occupation of children, and mode of entry, duration of stay, relatives visit time to old age home at P<0.05 level of significance.

6.4 IMPLICATIONS

The findings of the study have several implications on nursing practice, nursing administration, nursing education and nursing research.

NURSING PRACTICE

- This study finding will create awareness among the nurses about the importance of laughter therapy and its uses in reducing depression. This will help them to prevent various depressive related illnesses.
- It helps the nurse to understand the effectiveness of teaching elderly about laughter therapy and the findings of the study clearly points out that reduction in depression will improve the quality of life among elderly in the old age home and in the geriatric ward.

- It will help the nursing personnel to be in the best position to impart health education to the people in the old age homes or in any community set up which strengthens the community psychiatry.
- As 15 points Geriatric depression scale was easily and effectively administered in this study, the nursing personnel can use 15 points Geriatric depression scale as a assessment tool of depression in elderly.

NURSING EDUCATION

- The concepts of laughter therapy is the key component in complementary and alternative medicine and though they were already included in the nursing curriculum of undergraduate programme and post graduate programme but focus can be extended to practical training and exposure on laughter therapy can be incorporated in community psychiatry.
- Nursing students should be made well acquainted with laughter therapy and therapeutic laughter which can be made an integral part of geriatric nursing.

NURSING ADMINISTRATION

- Nurse administrators can prepare protocols and necessary policies to promote laughter therapy in the geriatric ward and to willingly participate in out reach programmes in the community thus strengthening the community psychiatry and also essential administrative support should be provided to conduct such activities.
- Nurse administrators must organize Continuing Nursing Education program to the nurse's working in outreach areas and communities to enable them to keep abreast with current knowledge regarding laughter therapy.

NURSING RESEARCH

- Extensive research must be conducted in this area to identify several effective methods of therapies.
- This study also brings about the fact that more studies need to be done at different settings, which are culturally acceptable, using various therapies.
- This study can be a baseline for future studies and this study can be inspired by other investigators to carry out further studies.

6.5 RECOMMENDATIONS

Based on the findings of the study, the recommendations offered for future research were

- A similar study can be conducted, replicated on a large sample to generalize the study findings.
- A similar study can be conducted with experimental research design having control group and experimental group.
- A comparative study can also be done to compare the effect of laughter therapy with other therapies such as touch therapy, massage therapy, cognitive behavior therapy, hug therapy etc.
- A similar study can be conducted by using a qualitative approach (Phenomenological) on feelings of elderly in the old age homes.
- A similar study can be conducted as comparative study between elderly residing in old age home and elderly residing in their homes.

6.6 LIMITATIONS

- The study was conducted among the elderly from a selected old age home at Madurai city only. So generalization must be done with caution.
- The period of data collection is limited to 6 weeks.

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Appendices

APPENDIX-I. LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

From:

T.Maheshkumar,

I Year M.Sc (Nursing),

College of nursing,

Madurai Medical College,

Madurai.

To:

The City Health Officer,

Madurai Corporation Office,

Madurai.

Through the proper channal.

Respected Sir,

Sub: Requesting Permission to conduct a dissertation study at Night Shelter Home (Old Age Home), Kamakarai Health Centre, Sellur, Madurai - Reg.

As per the curriculam recommended by The Tamilnadu Dr. M.G.R.Medical University, I have selected the topic **" A Study to assess the effectiveness of Laughter therapy on depression among elderly residing in selected old age home at Madurai"** for my dissertation. I am willing to conduct the study among the elderly group (male & female) residing at Night Shelter Home (old age home), Sellur. I assure that this study will not harm to participants. Laughter therapy is performed by teaching laugh activities. I kindly request you consider my letter and allow me to conduct the study in Night Shelter home (old age home), Sellur.

Thanking you

Place: Madurai.

Date: 23.12.13

Yours Sincerely

(T.MAHESHKUMAR)

P. Gokilamani
for Principal I/c

Mrs. P. GOKILAMANI, M.Sc.(N),
Lecturer in Medical & Surgical Nursing
College of Nursing
Madurai Medical College, Madurai-20
Mobile No:- 98427 82044

24/12/13

ASSOCIATE PROFESSOR
Institute Of Community Medicine
Madurai Medical College
Madurai

Permission Granted
24/12/13
உதவி நகர்நல அலுவலர்
மதுரை மாநகராட்சி.

- To submit a final dissertation to health dept of Madurai corporation.

From

T.Maheshkumar,
II year MSc (N) student,
College of Nursing,
Madurai Medical College,
Madurai.

To

The Medical Officer,
Sellur Health Post,
Sellur, Madurai.

Through the Principal. College of Nursing, Madurai Medical College, Madurai.

Respected Sir,

Sub: Requesting permission to conduct a dissertation study at Night Sheltered Home (old age home), Kammakarai Health Centre, Sellur, Madurai -Regarding

As per the curriculum recommended by Indian Nursing Council and DR MGR Medical University requirement, all the M.Sc Nursing students are required to conduct a dissertation study for the partial fulfilment of the course.

I have selected a study topic **"A study to assess the effectiveness of Laughter therapy on depression among elderly residing in selected old age home at Madurai "for my dissertation.**

Hence I request you to consider my letter and permit me to conduct the pilot study in your esteemed institution from 1.8.14 to 7.8.14

Thanking you

Yours obediently

(T.MAHESHKUMAR)

Forwarded
S.P
31/7/14
Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.

31/7/14

APPENDIX II.LETTER SEEKING PERMISSION TO CONDUCT PILOT STUDY

From

T.Maheshkumar
II year M.Sc (N)
College of Nursing,
Madurai Medical College,
Madurai.

To

The Principal,
The Theological Seminary,
Madurai.

Permitted
Inba Illam

REV. DR. M. GNANAVARAM
PRINCIPAL / SECRETARY
TAMILNADU THEOLOGICAL SEMINARY
ARASARADI
MADURAI - 625 016

Through the Principal, College of Nursing, Madurai Medical College, Madurai.

Respected sir,

Sub: Requesting permission to conduct a dissertation study at Inba illam, Pasumalai Madurai -Regarding

As per the curriculum recommended by Indian Nursing Council and Dr.MGR Medical University requirement, all the M.Sc Nursing students are required to conduct a dissertation study for the partial fulfillment of the course.

I have selected a study topic **"A Study to assess the effectiveness of Laughter therapy on depression among elderly residing in selected old age home at Madurai"** for my dissertation.

Hence I request you to consider my letter and permit me to conduct the pilot study in your esteemed institution from 01.08.14 to 07.08.14

Thanking you,

Place: Madurai

Date: 30.07.2014

yours obediently,

(T.MAHESH KUMAR)

Forwarded
S.P
30/7/14
Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.

APPENDIX-III.ETHICAL COMMITTEE APPROVAL LETTER

Ref. No. 68/E4/2/2014,

Govt. Rajaji Hospital,
Madurai.20. Dated: 26.02.2014

Institutional Review Board / Independent Ethics Committee.
Capt. Dr.B. Santhakumar, M.D., (F.M.,) deanmdu@gmail.com
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convenor**

Sub: Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

1.Dr.V. Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029 nag9999@gmail.com	Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1	Chairman
2. Dr.Mohan Prasad , M.S M.Ch Cell.No.9843050822 (Oncology) drbkcmp@gmail.com	Professor & H.O.D of Surgical Oncology(Retired) D.No.32, West Avani Moola Street, Madurai -1	Member Secretary
3. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056 drparameswari@yahoo.com	Director of Pharmacology Madurai Medical College	Member
4. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048 svadivelmurugan_2007@rediffmail.com	Professor& H.O.D of Medicine Madurai Medical College	Member
5. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031 drsundarms@gmail.com	Professor & H.O.D of Surgery Madurai Medical College	Member
6. Mrs. Mercy Immaculate Rubalatha, M.A., Med., Cell. No. 9367792650 lathadevadoss86@gmail.com	50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20	Member
7. Thiru..Pala. .Ramasamy , BA.,B.L., Cell.No 9842165127 palaramasamy2011@gmail.com	Advocate, D.No.72.Palam Station Road, Sellur, Madurai -2	Member
8. Thiru. P.K.M. Chelliah ,B.A Cell.No 9894349599 pkmandco@gmail.com	Businessman, 21 Jawahar Street, Gandhi Nagar, Madurai-20	Member

The following Projects was approved by the committee.

Name of P.G.	Course	Name of the Project	Remarks
T. Maheshkumar	M.Sc., (Nursing) College of Nursing, Madurai Medical College, Madurai.	A study to assess the effectiveness of laughter therapy on depression among elderly residing in selected old age home at Madurai.	Approved

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.

6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

Member Secretary **Chairman**
Ethical Committee

26.2.14
DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

24/2/14

To
The above Applicant
-thro. Head of the Department concerned

APPENDIX-IV.

CONTENT VALIDITY CERTIFICATES

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Geriatric Depression Scale

Prepared for data collection by T.Maheshkumar,II Year M.Sc(N) student, college of nursing Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** has been validated by me

N. Suresh

SIGNATURE OF EXPERT

NAME : N. SURESH KUMAR

DESIGNATION : Asst. Prof. Cum CLINICAL PSYCHOLOGIST.

DATE : 16/7/14

N. SURESH KUMAR. M.A., M.Phil.
Asst. Prof. Cum Clinical Psychologis
Dept. of Psychiatry
Madurai Medical College
Madurai-20.

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Geriatric Depression Scale

Prepared for data collection by T.Maheshkumar,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

NAME : V. Jesinda Vedanayagi

DESIGNATION : Asso. Professor

DATE : 1/8/14

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Geriatric Depression Scale

Prepared for data collection by T.Maheshkumar,II Year M.Sc(N) student, college of nursing Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** has been validated by me

G.Gomathy

SIGNATURE OF EXPERT

NAME : G.Gomathy

DESIGNATION : Assist Prof

DATE : 27.7.14

CERTIFICATE OF VALIDATION

This is to certify that the content & Tool

SECTION A- Demographic Data

SECTION B – Geriatric Depression Scale

Prepared for data collection by T.Maheshkumar,II Year M.Sc(N) student, college of nursing, Madurai Medical College,Madurai,who has undertaken the study field on thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF LAUGHTER THERAPY ON DEPRESSION AMONG ELDERLY RESIDING IN SELECTED OLD AGE HOME AT MADURAI"** has been validated by me.

SIGNATURE OF EXPERT

NAME :

DESIGNATION : Dr. T. KUMANAN, M.D.(PSY).DPM
Reg. No. 42857
Professor of Psychiatry / Senior Civil Surgeon
Madurai Medical College / Govt. Rajaji Hospital
Madurai

DATE : 18/7/2014

APPENDIX V.INFORM CONSENT FORM

INFORMED CONSENT FORM

ஒப்புதல் அறிக்கை

பெயர்: **நாள்:**

எனக்கு இந்த செவிலிய ஆய்வினைப் பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு கொள்வதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி முழுமையாக புரிந்துகொண்டேன். இந்த ஆய்வில் தானாக முன் வந்து பங்கு பெறுகிறேன். மேலும் எனக்கு இந்த ஆய்வீலிருந்து எந்த சமயத்திலும் விலகிக்கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய பெயர் மற்றும் அடையாளங்கள் ரகசியமாக வைத்துக்கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

கையொப்பம்

APPENDIX VI – RESEARCH TOOL- - ENGLISH

SECTION A

SOCIO DEMOGRAPHIC DATA

Instructions:

The investigator will ask the items listed below and place the tick mark against the response given by the respondents.

1. Age
   a) 65 yrs to 70 yrs ☐
   b) Above 70 years ☐

2. Gender
   a) Male ☐
   b) Female ☐

3. Religion
   a) Hindu ☐
   b) Christian ☐
   c) Muslim ☐
   d) Others ☐

4. Education
   a) No formal education ☐
   b) Primary education ☐
   c) Middle school ☐
   d) High school ☐
   e) Higher secondary ☐
   f) Degree ☐

5. Previous employment status
   a) Govt job ☐
   b) Private Job ☐
   c) Business ☐
   d) Cooly ☐
   e) Unemployed ☐

6. Source of income

a) Pension after retirement ☐
b) Old age pension ☐
c) Dependent on old age home ☐
d) Savings ☐
f) Support from children ☐

7. Marital status

a) Single ☐
b) Married ☐
c) Widow/Widower ☐
d) Divorced ☐
e) Separated ☐

8. Number of children

a) No child ☐
b) One child ☐
c) Two children ☐
d) Three and above ☐

9. Type of family

a) Joint family ☐
b) Nuclear family ☐
c) Extended family ☐

10. Occupation of children

a) Working in abroad ☐
b) Working in local area. ☐
c) Working in other districts ☐
c) Working in other states ☐

11. Mode of entry in the old age home

a) Voluntarily ☐
b) Family members ☐
c) Friends ☐
c) Others ☐

12. Duration of the stay in the old age home

a) Less than 1 year ☐

b) 1- 2 years ☐

c) More than 2 years ☐

13. Relatives visit time to old age home

a) Weekly once ☐

b) Monthly once ☐

c) Three months once ☐

c) Six months once ☐

d) More than six months once ☐

14. Medical illness. If specify

a) Diabetes ☐

b) Hypertension ☐

c) Any others ☐

c) No ☐

15. Are you taking any medicines continuously?

a) Yes ☐

b) No ☐

SECTION B

GERIATRIC DEPRESSION SCALE (GDS)

INSTRUCTION

The following items seek information about depression. The respondents are requested to read each item carefully and place tick (□) mark in the appropriate column. Kindly do not leave any item without response.

1. Are you basically satisfied with your life? Yes/ No

2. Have you dropped many of your activities and interests? Yes /No

3. Do you feel that your life is empty? Yes/ No

4. Do you often get bored? Yes/ No

5. Are you in good spirits most of the time? Yes /No

6. Are you afraid that something bad is going to happen to you? Yes/ No

7. Do you feel happy most of the time? Yes /No

8. Do you often feel helpless? Yes /No

9. Do you prefer to stay at home rather than going out and doing new things? Yes/ No

10. Do you feel you have more problems with memory than most? Yes /No

11. Do you think it is wonderful to be alive now? Yes/ No

12. Do you feel pretty worthless the way you are now? Yes/ No

13. Do you feel full of energy? Yes /No

14. Do you feel that your situation is hopeless? Yes /No

15. Do you think that most people are better off than you are? Yes /No

Interpretation:

1. Normal	: 0-4
2. Mild depression	: 5 to 8
3. Moderate depression	: 9 to 11
4. Severe depression	: 12 to 15

APPENDIX VII – RESEARCH TOOL – TAMIL

பிரிவு - அ

அடிப்படை விபரக்குறிப்பு

1. வயது (ஆண்டுகளில்)
   - அ. 65 முதல் 70 வரை ☐
   - ஆ. 71 மற்றும் அதற்கு மேல் ☐
2. பால்னம்
   - அ. ஆண் ☐
   - ஆ. பெண் ☐
3. மதம்
   - அ. இந்து ☐
   - ஆ. கிறிஸ்தவர் ☐
   - இ. முஸ்லீம் ☐
   - ஈ. பிற மதத்தவர் ☐
4. கல்வித்தகுதி
   - அ. எழுதப்படிக்கத் தெரியாதவர் ☐
   - ஆ. ஆரம்பநிலைக்கல்வி ☐
   - இ. நடுநிலைக்கல்வி ☐
   - ஈ. உயர்நிலைக்கல்வி ☐
   - உ. மேல்நிலைக்கல்வி ☐
   - ஊ. பட்டப்படிப்பு ☐
5. முன்பு செய்த தொழில்
   - அ. அரசு வேலை ☐
   - ஆ. தனியார் வேலை ☐
   - இ. சொந்த வேலை ☐
   - ஈ. கூலி வேலை ☐
   - உ. வேலை செய்யவில்லை ☐

6. வருவாய் மூலம்

அ. ஓய்வூதியதாரர் ☐

ஆ. அரசு முதியோர் ஊதியம் ☐

இ. முதியோர் இல்லம் சார்ந்திருத்தல் ☐

ஈ. வைப்புநிதி ☐

உ. பிள்ளைகளின் வருவாய் ☐

7. திருமண நிலை

அ. திருமணமாகாதவர் ☐

ஆ. திருமணமானவர் ☐

இ. விதவை ☐

ஈ. விவாகரத்தானவர் ☐

உ. பிரிந்திருப்பவர் ☐

8. குழந்தைகளின் எண்ணிக்கை

அ. குழந்தைகள் இல்லை ☐

ஆ. ஒரு குழந்தை ☐

இ. இரண்டு குழந்தைகள் ☐

ஈ. மூன்று மற்றும் அதற்கு மேல் ☐

9. குடும்ப வகை

அ. தனிக்குடும்பம் ☐

ஆ. கூட்டுக்குடும்பம் ☐

இ. விரிவான குடும்பம் ☐

10. குழந்தைகளின் வேலை

அ. வெளிநாட்டில் வேலை ☐

ஆ. உள்ளூரில் வேலை ☐

இ. வேறு மாவட்டத்தில் வேலை ☐

ஈ. வேறு மாநிலத்தில் வேலை ☐

11. முதியோர் இல்லத்தில் சேர்ந்த விதம்

அ. தாமாகவே ☐

ஆ. குடும்ப உறுப்பினர்கள் மூலம் ☐

இ. நண்பர்கள் மூலம் ☐

ஈ. பிற வழியில் ☐

12. முதியோர் இல்லத்தில் தங்கியுள்ள மொத்த நாட்கள் (ஆண்டுகளில்)

அ. 1 ஆண்டுக்கும் குறைவு ☐

ஆ. 1 முதல் 2 ஆண்டுகள் வரை ☐

இ. 2 ஆண்டுகளுக்கும் மேல் ☐

13. முதியோர் இல்லத்திற்கு உறவினர்களின் வருகை

அ. வாரம் ஒரு முறை ☐

ஆ. மாதம் ஒரு முறை ☐

இ. மூன்று மாதங்களுக்கு ஒரு முறை ☐

ஈ. ஆறு மாதங்களுக்கு ஒரு முறை ☐

உ. ஆறு மாதங்களுக்கும் மேலாக ☐

14. ஏதேனும் நீண்ட கால நோயினால் அவதிப்படுகிறீர்களா?

அ. சர்க்கரை நோய் ☐

ஆ. இரத்த அழுத்தம் ☐

இ. மற்ற நோய்கள் ☐

ஈ. எதுவும் இல்லை ☐

15. தற்போது ஏதேனும் தொடர் சிகிச்சை எடுத்துக் கொண்டிருக்கிறீர்கள்?

அ. ஆம் ☐

ஆ. இல்லை ☐

பிரிவு - ஆ

முதியோர் மனச்சோர்வு அளவுகோல்

கீழ்க்கண்ட வினாக்களுக்கு விடையளிக்கவும்.

1. அடிப்படையாக உங்களது வாழ்க்கை குறித்து நீங்கள் திருப்திகரமாக இருக்கிறீர்களா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

2. உங்களது பல வேலைகளையும் விருப்பங்களையும் விட்டு விட்டீர்களா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

3. உங்களது வாழ்க்கை வெறுமையாக இருப்பதாக உணர்கிறீர்களா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

4. அடிக்கடி உங்களுக்கு சலிப்புணர்வு ஏற்படுகின்றதா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

5. பெரும்பாலான நேரம் நீங்கள் நல்ல உத்வேகத்தில் இருக்கிறீர்களா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

6. உங்களுக்கு ஏதேனும் கெடுதல் நிகழப் போவதாக பயப்படுகிறீர்களா?

   அ. ஆம் ☐

   ஆ. இல்லை ☐

7. பெரும்பாலும் நீங்கள் மகிழ்ச்சி உணர்வு கொள்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

8. அடிக்கடி உங்களது மனதில் உதவியற்ற உணர்வு ஏற்படுகிறதா?

அ. ஆம் ☐

ஆ. இல்லை ☐

9. வெளியில் செல்லவும் புதியன செய்யவும் விரும்பாமல் வீட்டிற்குள்ளேயே இருக்க விரும்புகிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

10. பிற பிரச்சனைகளை காட்டிலும் நினைவு ஆற்றல் பிரச்சனை பெரிதாக இருப்பதாக உணர்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

11. நீங்கள் இப்பொழுது உயிருடன் இருப்பதே ஆச்சரியமான விஷயம் என்று எண்ணுகிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

12. நீங்கள் இப்பொழுது சிறிதும் உபயோகமற்றவறாக உணர்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

13. முழு ஆற்றல் நிரம்பியவராக உணர்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

14. உங்களது சூழ்நிலை நம்பிக்கையற்றதாக இருக்கிறது என உணர்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

15. உங்களைக் காட்டிலும் பெரும்பாலானோர் நன்றாக இருப்பதாக நீங்கள் நினைக்கிறீர்களா?

அ. ஆம் ☐

ஆ. இல்லை ☐

APPENDIX IX.TAMIL EDITING

CERTIFICATE OF TAMIL EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation **"A study to assess the effectiveness of laughter therapy on depression** among the elderly **residing in a selected old-age home in Madurai** "done by T.Maheshkumar, M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai - 20 has been edited for Tamil language appropriateness.

Name: Tmt M.SARATHA

Designation: Head Mistress [Tamil]

Institution: Govt. High School
T.Kallipatti CPO
periyakulam (T.K)
Theni (Dt)
Pin - 625605

Signature 28.7.14

HEAD MISTRESS
GOVT. HIGH SCHOOL
T. KALLIPATTY - 625 605
THENI DIST

APPENDIX X. INTERVENTION

LAUGHTER THERAPY

Laughter therapy is a new kind of therapy that involves giggling, chuckling and some exercises .It is the form of the therapy which encourages the use of natural physiological process of laughter to release the painful emotion of anger,fear,and boredom.

Theories of laughter:

Paralleling the four components of wellness mind, body, spirit, and emotions – are the theories of laughter, suggesting that laughter is an important factor in the wellness paradigm.

Superiority theory: It suggests that laughter is a socially acceptable outlet for aggression, where laughter at some one else's expense elevates one's own self-esteem.

Incongruity theory: It suggests that laughter is triggered by the connection of two or more concepts that seem absurd or incongruous.

Divinity theory: It suggests that laughter has the ability to make order out of chaos, promote unity and connectedness through shared laughter, uncover the naked truth of a situation, and life one's spirit.

Relief theory: It suggests that laughter is a physical manifestation of repressed thoughts of taboos such as sex and death.

Laughter in health care:

Laughter is mankind's greatest blessing –Mark Twain.

Laughter is used in many clinical settings as a supplemental tool in the healing and recovery process for everyone from alcoholics to cancer patients. Laughter provides several ways in which it can help patients in health care facilities or clinical therapy.Humour is a diversionary tactic for particularly those with oncology conditions. Laughter is a therapeutic tool

in the treatment of several clinical disorders. Laughter is a coping mechanism which fight against stress and depression. Laughter is a natural healing component not only for patients, but also for care givers. Laughter appears to have many healing qualities. Laughter can promote well being for patients and care givers alike.

Therapeutic benefits of laughter:

Physiological benefits:

1. An increase in the number and activity level of natural killer cells that attack viral infected cells and some types of cancer and tumor cells.
2. An increase in activated T cells(Lympocytes)
3. An increase in the antibody IgA (immunoglobin A) which fights upper respiratory tract insults and infections.
4. An increase in gamma interferon, which tells various components of the immune system to "turn on"
5. An increase in IgB, immunoglobulin produced in the greatest quantity in the body, which help antibodies to pierce dysfunctional or infected cells.
6. Laughter allows a person to "forget" about pain such aches, arthritis.
7. Laughter results in muscle relaxation.
8. Laughter can help to maintain the blood pressure.

Psychological benefits:

The biggest benefit of laughter is that is free and has no known negative side effects.

1. It is the power of positive healing.
2. It is a major weapon against stress
3. It is one way to arrive at a relaxation response.
4. It can help to reduce stress by release of pleasure chemicals.
5. It is believed to act as a coping mechanism to reduce stress and improve self- esteem.
6. It acts as a moderator of negative life events on depression.

Typical laughter session:

Frequency **: Twice a day**

Duration of therapy **: 14 sessions**

Duration **: 20 min for 5 consecutive days**. Each bout of laughter lasts for 1 min.Take five deep breaths after every laughter exercises.

STEP 1: Clapping in a rhythm 1-2, 1-2-3 along with chanting of "Ho-Ho-Ha-Ha-Ha".

STEP 2: Shoulder, neck and stretching exercises (5 times each).

STEP 3: Hearty laughter: Laughter by raising both the arms in the sky with the head tilted a little backwards. Feel as if laughter is coming right from your heart.

STEP 4: Greeting laughter: Joining both the hands and greeting in Indian style (Namaste) or shaking hands (western style) with all the people in the group.

STEP 5: Appreciation laughter: Join your pointing finger with the thumb to make a small circle while making gestures as if you are appreciating you group members and laughing simultaneously.

STEP 6: One meter laughter: Move one hand over the stretched arm of the other side and extend the shoulder (like stretching to shoot with a bow and arrow).The hand is moved in three jerks be chanting Ae…..,Ae…..,Aeee….and then participants burse into laughter by stretching both the arms and throwing their heads a little backwards and laughing from belly. (Repeat 4 times).

STEP 7: Milk Shake Laughter: Hold and mix two imaginary glasses of milk or coffee and at the instruction of the leader pour the milk from one glass by chanting Aee……,after that everyone laughs making a gesture as if they are drinking milk.(Repeat 4 times).

STEP 8: Silent laughter (With out sound): Open your mouth wide and laugh without making any sound and look into each others 'eyes and make some funny gestures.

STEP 9: Humming laughter (with mouth closed): Laughter with closed mouth and humming sound. While humming keep on moving in the group and shaking hands with different people.

SEPT 10: Swinging laughter: stand in circle and move towards the centre by chanting Aee…,Ooo…,Eeee…,Uuuu.

STEP 11: Lion laughter: Extend the tongue fully with eyes wide open and hands stretched out like the claws of a lion and laugh from the tummy.

STEP 12: Cell phone Laughter: Hold an imaginary mobile phone and try to laugh, making different gestures and moving around in the group to meet different people.

STEP 13: Argument laughter: Laugh by pointing fingers at different group members as arguing.

STEP 14: Gradient laughter: Gradient laughter starts with bringing a smile on the face, slowly gentle giggles are added and the intensity of laughter is increased further. Then the members gradually burst in to hearty laughter and slowly and gradually bring the laughter down and stop.

STEP 15: Heart to Heart laughter: come closer and hold each others hands and laugh. One can shake hands or hug each other, whatever feels comfortable.

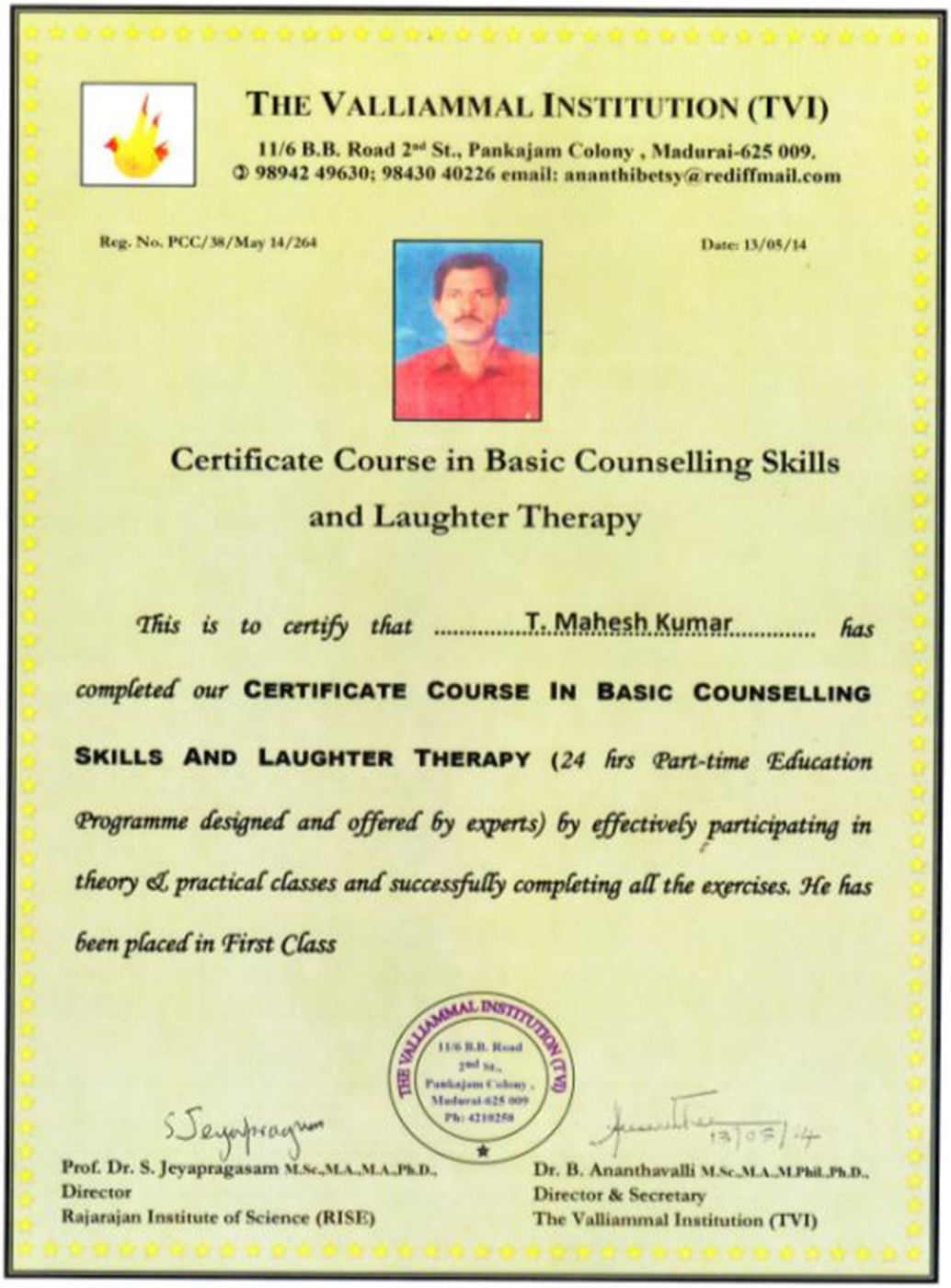
CLOSING THECHINQUE: Shouting 3 Slogans.

"We are the happiest people in this world" Y…….E…….S

"We are the healthiest people in this world" Y…….E…….S

"We are the laughter club members" Y…….E…….S

APPENDIX XI.TRAINING CERTIFICATE



THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.
✆ 98942 49630; 98430 40226 email: ananthibetsy@rediffmail.com

Reg. No. PCC/38/May 14/264

Date: 13/05/14

Certificate Course in Basic Counselling Skills and Laughter Therapy

This is to certify that .....T. Mahesh Kumar..... *has completed our* **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS AND LAUGHTER THERAPY** *(24 hrs Part-time Education Programme designed and offered by experts) by effectively participating in theory & practical classes and successfully completing all the exercises. He has been placed in First Class*

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S Jeyapragasam

Prof. Dr. S. Jeyapragasam M.Sc.,M.A.,M.A.,Ph.D.,
Director
Rajarajan Institute of Science (RISE)

13/05/14

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)